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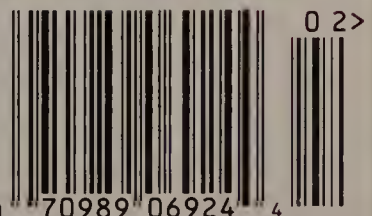
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iTunes Match











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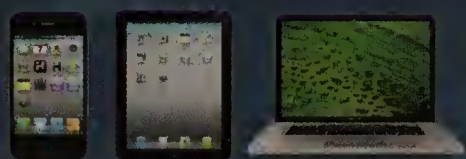
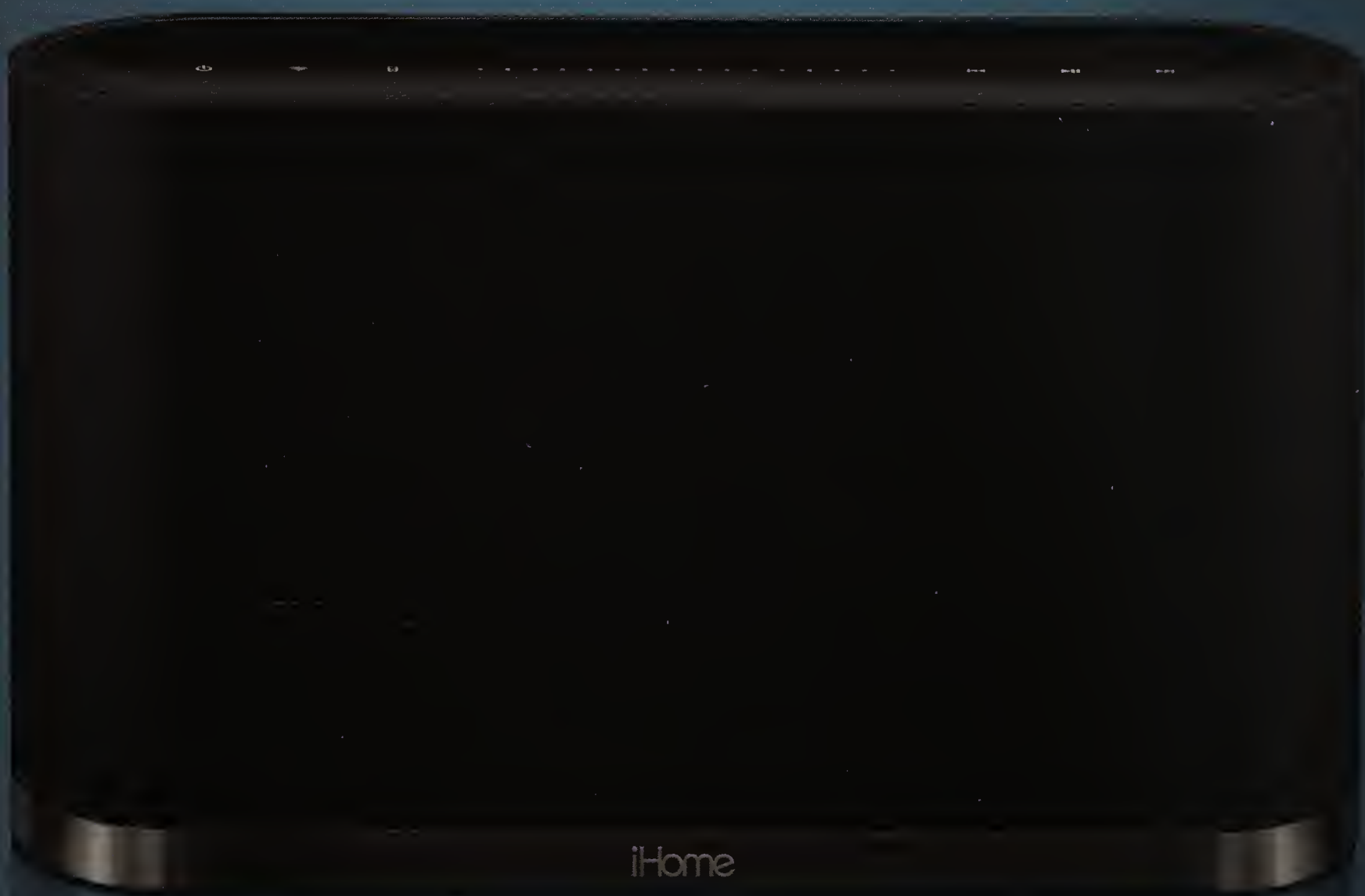
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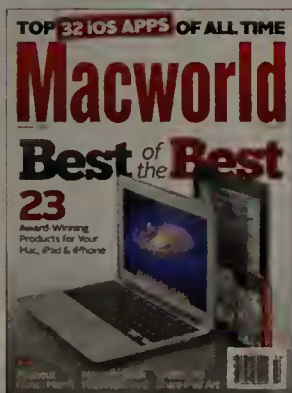
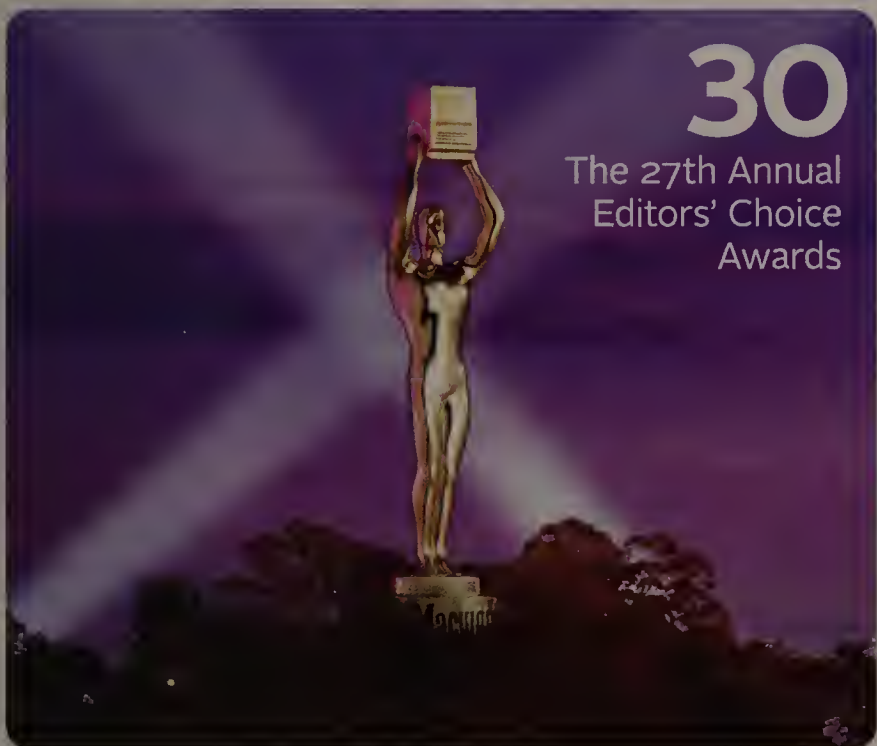
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Podcast: Meet iTunes Match

Macworld editors detail what you need to know about Apple's online music service (macworld.com/a/163663).

We also recommend:

Video: Set Up Custom iPhone Email Alerts with Boxcar and Gmail (macworld.com/a/163712).

Podcast: MacBook Pro Updates and Speedmark 7 (macworld.com/a/163355).

Video: Ripping the Correct DVD Title with HandBrake (macworld.com/a/163513).

Slideshow: Painting a Portrait with the iPad (macworld.com/a/163425).

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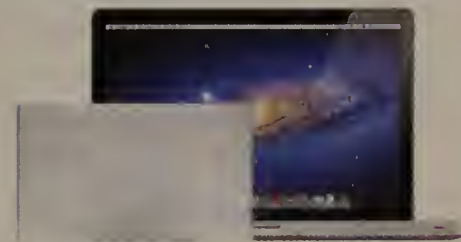
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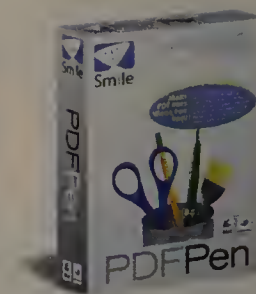
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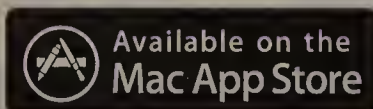


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In Praise of iTunes Match

Why Apple's music-syncing service is something you'll want to keep around

When Apple announced its new iTunes Match service, I was skeptical. I had just been released from my annual \$99 payment to Apple for MobileMe, thanks to iCloud. I wasn't excited about a new annual subscription taking its place.

I figured I'd pay \$25 for iTunes Match just for the first year. I'd use the service once: to upgrade all my older music tracks to high-quality versions provided from Apple's iTunes Plus library. (You can get details about how to do this—and a lot more about iTunes Match—in “iTunes Match: What You Need to Know,” *Playlist*, page 68.) I expected that once the upgrade was complete, I'd stop using iTunes Match and then never pay again.

Perhaps Apple hadn't made the details of iTunes Match clear enough. Perhaps I was too excited about my MobileMe fee going away to properly understand what this new service was really about. But after having used iTunes Match for a while now, I've come to appreciate it quite a bit. I'll probably keep paying for it for years to come.

iTunes Everywhere

It all starts with keeping the integrity of my iTunes library across many different devices. I have an iMac on my desk at work, a Mac mini with all my music on it at home, and a MacBook Air with me just about everywhere I go. I also have an iPad and an iPhone.

Many of iTunes' features were originally designed with the idea of a single jukebox on a single computer, and it showed. Syncing with iPods and iPhones was OK, but if you had a second Mac somewhere else, things started to fragment quickly.

Take play counts. I love personal statistics, and knowing exactly how many times I've played a given song is great. But listening on a few different



While Apple still has details to work out, the more I use iTunes Match, the more I see its benefits.

Macs—or losing the play count when you delete a song from your iTunes library for some reason—meant that the play count was never meaningful to me.

With iTunes Match, that stuff—most notably playlists and song metadata—goes everywhere and stays in sync. You could completely delete your iTunes music library on your main computer and then reconstitute it from the cloud, playlists included. As someone who has had to build and rebuild playlists many times over the years, that's pretty cool.

Having my entire music library with me wherever I go is more compelling than I thought it would be. A few weeks ago I was stuck at an airport with free Wi-Fi for a few hours, working on my MacBook Air. Sure, I had my iPhone there with a small subset of songs loaded on it. But my laptop's copy of iTunes included links to my entire music library, including all of my playlists. I double-clicked a song, and it just played, streaming the file from Apple's servers. I pressed the Genius button and it

assembled a Genius Playlist from my own library. It was seamless, just as if I'd had my entire multi-gigabyte library with me on my MacBook Air's drive.

Not Quite Good Enough

Though my time in the airport made me realize iTunes Match's worth, I do have some questions about its future direction. I'm not sure that the iTunes Match experience on iOS devices is good enough yet. Users should be able to sync with a local copy of iTunes *and* still have access to iTunes Match. And I still feel confused when I use my iPhone's music app about what I'll find on there, what's available to play, and what will require a download over a Wi-Fi or 3G connection. It makes me uneasy and suggests to me that Apple hasn't quite nailed iTunes Match in the iOS Music app.

But while Apple still has details to work out, the more I use iTunes Match, the more I see its benefits. Just the other day I realized that I no longer need to keep a backup copy of all my music on my computer at home, since iCloud can serve as my music backup. And now those play counts actually mean something!

Upgrading all of my old iTunes purchases has been great. Getting high-quality versions of my CD rips without having to dig out my CD collection from the garage and re-rip them manually? *Awesome*. But I'm starting to appreciate the benefits of a long-term relationship with iTunes Match, too. I can see myself a year from now finding it impossible to cancel the service and give up all these other features. Looks like Apple might have my annual payment back, after all.

Jason Snell is *Macworld's* editorial director. Contact him at jason_snell@macworld.com or follow him at twitter.com/jsnell.

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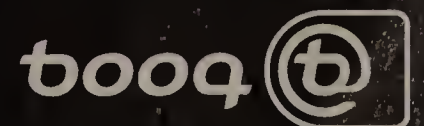
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Match Point

iTunes Match is up and running (for U.S. residents, at least), GarageBand for iOS has hopped aboard the iPhone train, and iOS 5 may still have a few battery-sucking kinks to work out. What do your fellow *Macworld* readers think about these topics? Read on to find out.

A MATCH MADE IN ...

I was wary of spending \$25 for iTunes Match, but after just a few days it's my new favorite feature—and totally worth the money. Playlist syncing pushed me over the edge: I hate creating a playlist on my computer and forgetting to sync it with my iPhone before I go out. Now, when I make changes to my music library, they're seamlessly pushed everywhere. Another thing that really stands out for me is getting my music to my wife. I'm surprised and delighted with this service and the integration is great. Now I see

that I will be paying for this feature for a very long time.

nmassenkoff, via the Macworld.com forums

I love that Match automatically syncs my starred songs. I gave a song a five-star rating and in seconds saw that it had updated the song on my iPhone. This is just the beginning—Match will mature over time.

mvivas, via the Macworld.com forums

One downside is that iTunes Match requires that you have a credit card linked and stored to your Apple ID account—you can't use store credit. For someone who is against having their credit card details stored by a third party, this is a pain.

MJN21, via the Macworld.com forums

The iTunes Match song limit should be adjusted one of two ways: Let users select which 25,000 songs from their library they want to sync, or let users pay an additional fee to match and upload their entire collection.

brobdingnagian, via the Macworld.com forums



[See "iTunes Match: What You Need to Know," Playlist, page 68, for more.—Ed.]

iOS 5'S ENERGY DRAIN

iOS 5's battery-life problem must be specific to some peculiar function (see "Get Better Battery Life from Your iOS Device," *iOS Central*, page 24). I can leave my iPhone 4S six days on standby with 22 percent charge remaining, and I have almost everything enabled on my 4S, including 3G, Wi-Fi, Notifications, iCloud, Photo Stream, and push. My battery life is very satisfactory—it will be interesting to

see why certain people are having such battery performance troubles.

Indagador, via the Macworld.com forums

My iOS 5-upgraded iPhone 4 has been chewing through battery life at a rapid pace when using the Maps app. I've used it extensively on road trips before to find alternate routes and pit stops, but the battery never before dropped 10 percent every 20 minutes. I was using the new multiple route feature a lot—not sure how much more CPU that uses. Outside Maps, battery life is not noticeably different.

jhorton, via the Macworld.com forums

It'd be great to have a battery-saving app from Apple: Turn it on, and it would automatically disable certain features; turn it off to reenable everything. That'd be a lot easier than wading through menus.

Inkling, via the Macworld.com forums

GARAGEBAND UPDATED, ARRIVES ON THE IPHONE

Awesome! My iPhone goes everywhere with me, so I'll be able to set musical theory back even further every day.

wardoggie, via the Macworld.com forums

Thank goodness they've fixed velocity detection. I'd do ten seemingly identical taps on the drums, and ... BANG poof psh psh BANG! psh BANG psh poof. Unusable for anything other than goofing off.



sigma8, via the Macworld.com forums

A bummer that you still can't export songs directly to the Music app. I'd love to use GarageBand to score my iMovie app projects, but there's no cross-compatibility.

Bob_Hudson, via the Macworld.com forums

[Check out our review of GarageBand in this issue's *iOS Central*, page 22.—Ed.]

CORRECTIONS

In our review of the Mophie Juice Pack Plus (*iOS Central*, January 2012), the mouse rating should have been , not .

All reader communications to *Macworld*—through mail, email, our social networking accounts, and our online forums—are presumed to be intended for publication. We reserve the right to edit them.

Updates Boost Laptop Value

Already-attractive MacBook Pros get nice performance boost

BY JAMES GALBRAITH

REVIEW

The new MacBook Pros have fairly modest improvements when compared to the models they replace, but there's still plenty to like about the upgrades.

The \$1199 entry-level 13-inch MacBook Pro features a 2.4GHz dual-core Core i5 chip, which is a slight bump over the 2.3GHz dual-core Core i5 processor in its predecessor. The \$1199 model also now has a 500GB hard drive, an increase over the 320GB hard drive in the older model. The \$1499 13-inch MacBook Pro now sports a 2.8GHz dual-core Core i7 processor and a 750GB hard drive; the previous model had a 2.7GHz dual-core Core i7 processor and a 500GB hard drive. The 13-inch models use the same Intel HD Graphics 3000 integrated graphics as the previous 13-inch MacBook Pros.

The 15-inch models were updated with 2.2GHz (\$1799) and 2.4GHz (\$2199) quad-core Core i7 processors, up from 2.0GHz and 2.2GHz, respectively. The \$1799 model now has a 512MB AMD Radeon HD 6750M graphics chip, while the \$2199 model has a 1GB AMD



aside from screen size and the addition of an ExpressCard/34 slot.

The glossy LED backlit screens each measure 13.3, 15.4, and 17 inches diagonally, with 1280-by-800-, 1440-by-900-, and 1920-by-1200-pixel resolution, respectively. All systems have a full-size, backlit keyboard, as well as glass Multi-Touch trackpads.

Every model has a Thunderbolt port, a FireWire 800 port, a gigabit ethernet port, a MagSafe power connector, and both audio-in and audio-out ports. The 13- and 15-inch models have two USB 2.0 ports and an SDXC memory card slot. The 17-inch model has three USB 2.0 ports and an ExpressCard/34 slot.

2.4GHz Core i5 processor is just a little more than 4 percent faster overall than the 2.3GHz system it replaces. The 13-inch model with the 2.8GHz Core i7 is about 9 percent faster than the 2.7GHz system it replaces.

Macworld Lab Test

Speedmark 7 Test Results

13-Inch MacBook Pro <i>Core i5/2.4GHz (late 2011)</i>	146
13-Inch MacBook Pro <i>Core i7/2.8GHz (late 2011)</i>	164
15-Inch MacBook Pro <i>Core i7/2.2GHz (late 2011)</i>	190
15-Inch MacBook Pro <i>Core i7/2.4GHz (late 2011)</i>	219
17-Inch MacBook Pro <i>Core i7/2.4GHz (late 2011)</i>	216
13-Inch MacBook Pro <i>Core i5/2.3GHz (early 2011)</i>	140
13-Inch MacBook Pro <i>Core i7/2.7GHz (early 2011)</i>	151
15-Inch MacBook Pro <i>Core i7/2GHz (early 2011)</i>	169
15-Inch MacBook Pro <i>Core i7/2.2GHz (early 2011)</i>	205
17-Inch MacBook Pro <i>Core i7/2.2GHz (early 2011)</i>	207

Longer bars are better. Reference systems are in *italics*. Speedmark 7 scores are relative to those of a 2.4GHz Core 2 Duo Mac mini (mid-2010) with 2GB of RAM, which is assigned a score of 100. For more on Speedmark 7 test results, go to macworld.com/7487.—MACWORLD LAB TESTING BY JAMES GALBRAITH, MAURICIO GRIJALVA, AND WILLIAM WANG

The improvements in the new MacBook Pros are modest when compared to the models they replace, but there's still plenty to like about the upgrades.

Radeon HD 6770M graphics chip. The storage capacity hasn't changed on the 15-inch models, with a 500GB hard drive in the \$1799 model, and a 750GB hard drive in the \$2199 model.

The 17-inch \$2499 model matches the \$2199 15-inch model in all specifications,

Subtle Boost

To gauge performance, we used Speedmark 7, our application-based benchmark suite. The differences between the latest MacBook Pros and their immediate predecessors are subtle. The new 13-inch model with the

The 15-inch MacBook Pro with a 2.2GHz Core i7 is a little more than 12 percent faster than the 2GHz model it replaces, mostly thanks to improved graphics performance. The higher-end 15-inch MacBook Pro, with its Radeon HD 6750M graphics, displays an impressive 85 percent more frames per second in Cinebench's Open GL test than did last year's comparable model with its 256MB AMD Radeon HD 6490M graphics. Our Portal 2 test also shows great improvement in graphics performance, with the new \$1799 model displaying 160 frames per second, compared to the 68.6 frames that last year's \$1799 model was able to display.

The new 17-inch MacBook Pro is a little more than 4 percent faster overall than the early-2011 17-inch model.

Battery life is similar to that of the last set of MacBook Pros. We clocked between 5.5 and 6 hours of life in our full-screen-video playback test at full brightness.

Macworld's Buying Advice

The new MacBook Pro lineup won't cause any buyer's remorse for those who purchased a member of the early-2011 family, or perhaps even for buyers of a 2010 MacBook Pro. But if you have an older laptop, the late-2011 MacBook Pros' faster processors, larger-capacity hard drives in the 13-inch models, and improved graphics in the 15- and 17-inch models combine to make an already impressive lineup that much more tempting.

James Galbraith is the Macworld Lab director.

13-Inch MacBook Pro Core i5/2.4GHz
\$1199

13-Inch MacBook Pro Core i7/2.8GHz
\$1499

15-Inch MacBook Pro Core i7/2.2GHz
\$1799

15-Inch MacBook Pro Core i7/2.4GHz
\$2199

17-Inch MacBook Pro Core i7/2.4GHz
\$2499

Apple, www.apple.com

Thunderbolt: Make the Connection

BY JAMES GALBRAITH

Thunderbolt is the new interface for connecting peripheral devices that Apple recently began including in all new Macs—including the MacBook Pros. It combines PCI Express and DisplayPort technologies to offer fast and versatile connectivity. In this quick guide, we take a look at the different ways you can connect devices to Thunderbolt. Where you place devices in a Thunderbolt daisy chain is important.

Connect One Thunderbolt Device to a Mac

The simplest connection involves attaching a Thunderbolt-equipped peripheral to a Mac's Thunderbolt port using a Thunderbolt cable.

When you buy a Thunderbolt peripheral, it may not include a Thunderbolt cable. Such cables cost \$50 and are sold only by Apple. The company's Thunderbolt Display has a nonremovable Thunderbolt cable (it also has a rear Thunderbolt port).

Daisy-Chain Multiple Devices

All Macs in Apple's current lineup except the Mac Pro feature at least one Thunderbolt connector. Most Thunderbolt peripherals have two Thunderbolt ports so that you can connect additional Thunderbolt and Mini DisplayPort peripherals by creating a daisy chain. The term *daisy chain* refers to a string of devices connected to each other, rather than directly to the host.

For example, let's start with a 2011 MacBook Pro, which has one Thunderbolt port. You can connect a Thunderbolt drive to the laptop. Using that drive's second Thunderbolt port, you can then connect another Thunderbolt drive.

If you have an Apple Thunderbolt Display, you can also add it to the chain. Since the Thunderbolt Display has USB 2.0 and FireWire

800 ports in addition to the Thunderbolt port, you can then connect FireWire 800 devices, USB peripherals, and even more Thunderbolt devices to the Thunderbolt Display.

A display that uses a Mini DisplayPort, like Apple's LED Cinema Display, can connect using Thunderbolt, but the display must be the last device in the chain.

Another caveat with the LED Cinema Display is that it can't connect to the rear Thunderbolt port on an Apple Thunderbolt Display. Some other Thunderbolt device must sit between the Thunderbolt Display and the LED Cinema Display. For example, you can connect a Thunderbolt drive to a Thunderbolt Display and then connect an LED Cinema Display to the Thunderbolt drive.

If you decide to use an adapter, it needs to have two Thunderbolt ports to go anywhere on the daisy chain. For example, the Sonnet Echo ExpressCard/34 Thunderbolt Adapter, which lets you use ExpressCard/34 adapters (such as ones for FireWire 800 or eSATA), has only one Thunderbolt port, so it must reside at the end of a chain.

Thunderbolt Support

Not all Thunderbolt-enabled Macs offer the same level of support for peripherals. The 2011 MacBook Air uses the Eagle Peak Thunderbolt controller, which offers two 10-gbps bidirectional Thunderbolt channels and supports one DisplayPort connection. The 2011 MacBook Pro, iMac, and Mac mini use the Light Ridge Thunderbolt controller, which offers twice the number of bidirectional Thunderbolt channels and supports two DisplayPort connections.



Mac App Store Sandbox Makes Developers Wary

Changes will boost the security of Mac apps, but could strip out functionality

BY LEX FRIEDMAN

Come March 1, 2012, all apps submitted to the Mac App Store must implement a security system called *sandboxing*. The result should be safer applications, but some developers fear that sandboxing may cripple their apps.

Sandboxing limits an individual app's access to your computer. So rather than having full access to, say, your Mac's memory or file structure, a sandboxed app is instead confined to its own dedicated space on your computer.

Gus Mueller of Flying Meat Software compares it to the playground sandbox from which the computing concept takes

its name. "[In childhood,] we were handed a couple of toys, and if we wanted out of the [sandbox] or wanted to [use] something not given to us by our parents, then that's too bad," he says.

Sandboxing ensures that an app "does only what the user allows and expects it to do in response to the user's wishes, and no more," Rich Siegel of Bare Bones Software explained. If an app can't get at other data on your Mac, it's much harder for that app to carry out evil actions.

Potential Pitfalls

Apple's sandboxing rule affects only new apps and updates to existing apps

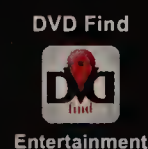
submitted on or after March 1. Some developers fear that they will have to make changes to their apps in order to continue offering existing features. Others fear that some features may simply not be allowed in the sandbox and thus might have to be removed entirely.

Flying Meat Software's Mueller worries that sandboxing may force him to remove one of his applications, the screenshot utility FlySketch. His other apps, Acorn and VoodooPad, may need to have features removed to stay in the store, he says. Both apps currently load plug-ins, which Mueller says won't be allowed once the sandboxing rules take

Your iPhone/iPad Idea to Fruition in 2 Steps

1 Bring your application idea to Zco

2 Zco designs and develops your app



Entertainment

Eck App



Games

Pico de Botella



Entertainment

Discovery Game



Games

bpServ



Business

KungFu Spinner



Games

NHPR



News

AutoVol



Utility

Extreme Speed Gliding



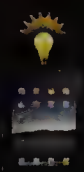
Games

NameCatcher



Lifestyle

ur



2



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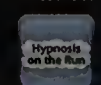
Entertainment

Lil' S.P.E



Social Networking

Hypnosis on the Run



Lifestyle

ClassTime Schedule



Education

Abbo EMR



Medical

Hospitality iCoach



Business

effect. Both apps also offer “extensive scripting support using Python or JavaScript,” he adds, which likewise will not be permitted.

Mueller’s key concern is simple: Customers will be surprised and confused if apps bought at the Mac App Store get updates that remove some of their functionality simply to comply with Apple’s sandboxing rules.

Will Sandboxing Make Us Safer?

Beyond the obvious trade-off of potentially limiting some apps’ functionality, sandboxing really only makes you safer if you exclusively run Mac App Store apps. “People are still going to download apps off the Internet,” Mueller says.

While some developers are understandably concerned, sandboxing’s impact on many apps should be minimal. It’s clear that Apple is willing to listen to developers; its developer

website includes a prominent feedback form. Ivan Krstić, Apple’s engineer for core operating system security, continues to engage with developers through Twitter, encouraging them to file bug reports with Apple if they are worried about sandboxing’s impact on their apps. Krstić

assured one developer, “We understand the need for your use case” (a use case is a software modeling method); he told another that filing bugs will “give us feedback that we can turn into fixes.”

Apple clearly owes a portion of its tremendous success with the Mac, the



iPhone, and the iPad to its developers. One hopes that the developers who spoke with *Macworld* and the security engineers at Apple can work together to come up with smart, secure solutions that leave intact most of the features in the apps we love.



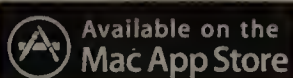
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Software

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MAC GEMS

Discover Great, Low-Cost
Mac Products **By Dan Frakes**

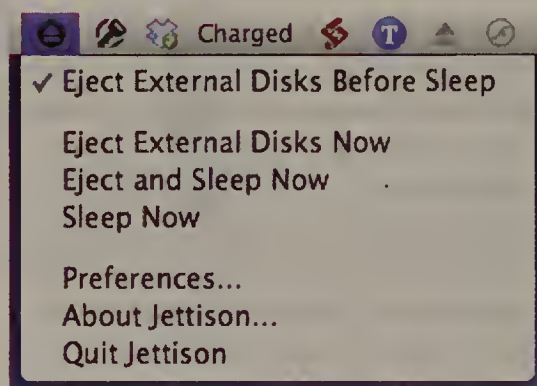
AUTOMATIC UNMOUNTER

Jettison 1.1

🍎🍎🍎; \$2; ST. CLAIR SOFTWARE, STCLAIRSOFT.COM

One hassle of using a laptop is that before you pack up and go, you must unmount all your external volumes. With Jettison running, you just close your MacBook's lid (or, on any Mac, otherwise put the computer to sleep). Jettison delays sleep long enough to allow it to safely unmount external volumes (USB, FireWire, and Thunderbolt hard drives; thumb drives; and network shares); then it plays a confirmation sound of your choosing and puts the computer to sleep. Once you hear that sound, it's safe to unplug and go. If a Time Machine backup is running, Jettison gracefully stops the backup before ejecting your Time Machine backup volume.

If for some reason Jettison can't unmount a volume—for example, because



a utility such as SuperDuper is currently backing up to that drive—Jettison will play an error sound to let you know that it was unsuccessful. You'll need to either quit the offending application or wait for the task to complete, and then try again.

Jettison's optional systemwide menu lets you manually eject all external

volumes without putting your computer to sleep. There's also a menu command, useful for desktop Macs (or for times when you want to keep your laptop open while it sleeps), for ejecting volumes and putting your Mac to sleep. And if you don't like the main unmount-on-sleep feature, you can disable it—permanently or temporarily—and just use the rest of Jettison's features. The utility also provides a Sleep Now command that lets you put your Mac to sleep without unmounting anything.

Jettison is useful on any Mac with external volumes mounted, but road warriors will likely appreciate it the most, as it makes packing up easier than ever—just close the lid, listen, and unplug.

DRIVE SPACE MONITOR

FreeSpace 1.0

🍎🍎🍎; \$1; LUMUS WORK, FREESPACEOSX.OFEES.NET

Thanks to the lower capacities of solid-state drives—and the pervasiveness of huge media files that cramp even the largest hard drives—it sometimes feels like we're back in the 1990s, carefully monitoring the amount of free space on our drives. The program FreeSpace at least makes it easier to do so, as its systemwide menu displays the available space on your boot volume; click the menu display and you see a list of every mounted volume—organized by type (internal, external, optical, network, disk image, and so on)—along with the amount of free space on each.

FreeSpace's menu also conveniently lets you eject any volume by clicking the eject button next to it—there's no need to open a Finder window or view the desktop. If a connected drive has multiple partitions,

unmounting one automatically unmounts all of them—you don't have to deal with the Finder's "Do you want to eject volumename only, or all the partitions?" dialog box. Alternatively, click Eject All to quickly unmount all external volumes at once—convenient when you're about to pack up your MacBook Pro for a road trip.

FreeSpace's other simple but useful feature is that choosing a volume in FreeSpace's menu opens that volume in the Finder. This is often quicker and more convenient than switching to the Finder and, if necessary, opening a new Finder window for navigating to that volume.

Unfortunately, FreeSpace won't alert you if a particular volume is getting tight



on space—that's one of my favorite features of Space Control, a previous Gem (🍎🍎🍎; macworld.com/a/145730). And I wish you could save menu-bar space by showing only the FreeSpace icon in the menu bar, rather than a disk icon and the available free space on an internal volume. Still, FreeSpace is handy for keeping an eye on your free drive space, and for quickly accessing and unmounting volumes.

NETWORK MONITOR

iNet 1.2.1

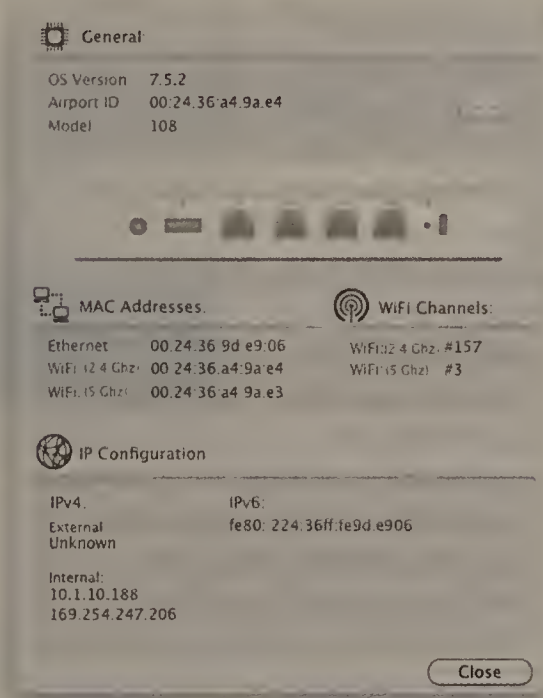
🍏🍏🍏🍏: \$6; BANANAGLUE, WWW.BANANAGLUE.DE

iNet is a nifty network viewer and troubleshooter that provides insight into the activity occurring on any ethernet or Wi-Fi network. This includes Bonjour activity, active network devices and information about them, and a vast array of data for each Wi-Fi base station.

The program has three main tools, each letting you see the network through a different lens. The Scanner tool is a glimpse into the hardware that's connected to your local network. iNet grabs the data that devices constantly broadcast and performs tests to obtain more details. For each device, you can see its name (if available), IP address, Media Access Control (MAC) address (a network adapter's unique identifier), and detailed information about the device's type, status, and more.

The Bonjour browser displays detailed information about every Bonjour-enabled

service (such as File Sharing, Printing, and AirDrop) on the local network. The browser's Services view lets you select a



service—for example, AirDrop—to reveal details about which devices are currently offering to perform that task. This view is useful if, for example, a router or firewall is blocking iTunes Home Sharing: Click that service and select a computer, and you can see that you need to configure your router to allow TCP/IP traffic over port 3689.

iNet's AirPort Monitor shows a wealth of information for each Apple-branded base station on your network; the Wi-Fi Clients view provides information that allows you to move laptops, mobile devices, and base stations around to find the best performance.

iNet offers an easy-to-use summary of information that you'd otherwise need to compile using various components of both Apple and third-party software. It's a must-have for anyone troubleshooting network issues.—GLENN FLEISHMAN

GRAPHICS-CARD SWITCHER

gfxCardStatus 2.1

🍏🍏🍏🍏: PAYMENT REQUESTED; CODY KRIEGER, CODYKRIEGER.COM

Apple's 2010 and later 15-inch and 17-inch MacBook Pros, as well as some 2008 and 2009 models, include both a low-power, lower-performance integrated Intel

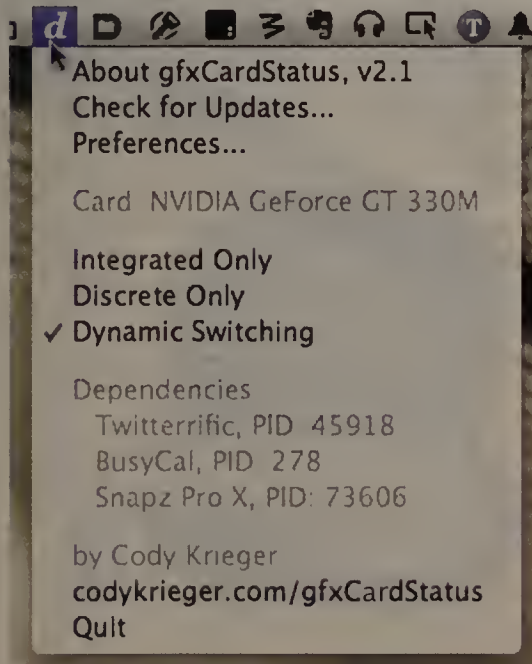
graphics processing unit (GPU) and a power-hungrier, higher-performance discrete Nvidia or AMD GPU, switching between the two based on the needs of running applications.

If you need to eke out your battery life, gfxCardStatus can force your laptop to use its battery-sipping integrated GPU when it would otherwise use the battery-hogging discrete GPU (essentially the opposite of the Energy Saver preference pane setting to always use the discrete GPU).

gfxCardStatus's systemwide menu icon displays which GPU is in use, letting you get a better idea of which tasks cause your MacBook Pro to use the power-hungry GPU. The menu itself is even more useful, as it lists which specific apps are using discrete graphics, so you can quit those apps when you need to extract more time from your battery.

gfxCardStatus also offers an Integrated Only mode that forces the computer to use the integrated GPU. Before selecting this option, though, make sure you quit all applications listed under Dependencies, as some programs don't take kindly to having the discrete GPU disabled.

You can also have gfxCardStatus automatically choose integrated, discrete, or dynamic GPU modes based on whether your MacBook Pro is running from battery or AC power. However, I'm leery of this feature—a dependent application could be using discrete graphics when your MacBook Pro goes to sleep, but be limited to integrated graphics by gfxCardStatus when the computer wakes up.—JEFF CARLSON



Check out the **Mac Gems blog** at macworld.com/macgems.

MENU-BAR CALENDAR

QuickCal 3.0.2

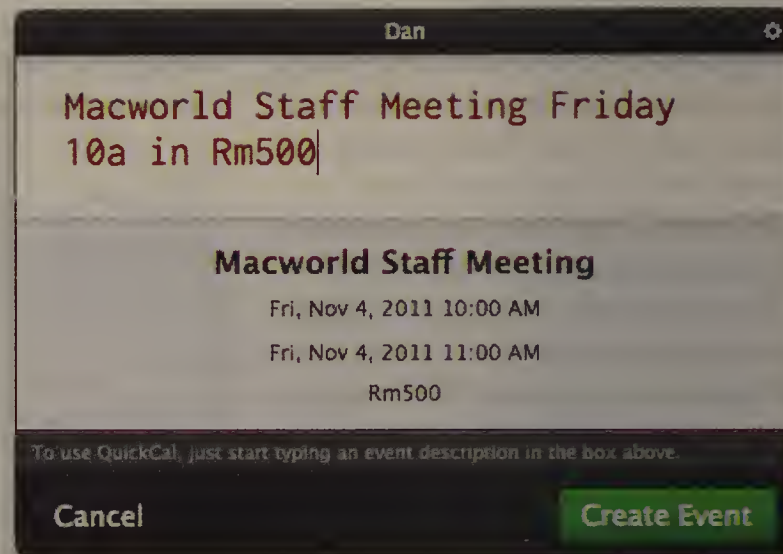
👤👤👤; \$3; SMELLY PUPPY, QUICKCALAPP.COM

One of my favorite recent Gems is Fantastical (👤👤👤👤; macworld.com/a/163222), a menu-bar-based calendar that for many people can replace iCal. QuickCal is a less-expensive alternative for people who don't need as many features. Click QuickCal's systemwide menu-bar icon and you see a list of upcoming events and tasks. You choose which iCal or Google Calendar calendars appear, as well as how many days' worth of events. Hover the cursor over an event or task for more information. You can't edit events from within QuickCal, but selecting an event opens it in your default calendar program (for iCal or BusyCal calendars) or in Google Calendar in your browser.

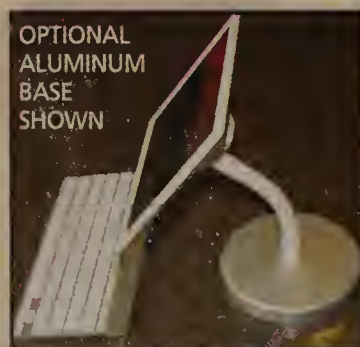
QuickCal also lets you use natural language to quickly create events and

tasks, similar to what you can do in iCal in Mac OS X 10.7 (Lion). For example, type **Macworld Staff Meeting Friday 10a in room 500**, and QuickCal figures out that you want to create an event called Macworld Staff Meeting at 10 a.m. on Friday in room 500.

QuickCal can also create additional reminders for events further in the future. For example, you might want a three-days-before reminder for events scheduled more than a month out.



If you're satisfied with iCal overall, QuickCal is a nice add-on that makes it easier to create events and to get an overview of your upcoming schedule.

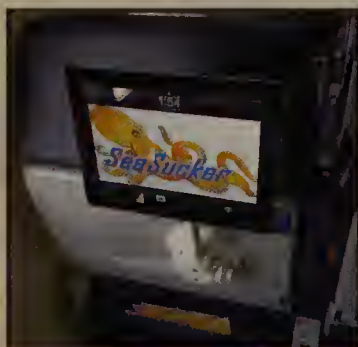


AppleMount.com

NO brackets or clips.

Mounts in seconds & removes in one!

- Our tablet mount is built around the most technologically advanced vacuum mount on the planet. These mounts are surprisingly powerful and have a history of use in critical applications like holding dive tanks secure on boats, attaching bike racks to cars, and even assisting our military in the desert in ways we can't even tell you about.
- Our heavy duty flex-arm allows you to bend and turn your tablet to get your screen into the perfect position.
- The vacuum mount has a built-in finger pump. Pump it until the orange band disappears, and if it loses any vacuum, the orange band will reappear to let you know that it's time to re-pump it. You don't have to take it off, lick it and re-stick it – just give it a few pumps and you're back to full power!
- Unique multi-dimensional mounting platform allows for unparalleled location flexibility!



HEADREST MOUNT



PATENT PENDING

Let Your iPad Run Naked!

MEDIA-STORE SEARCHER

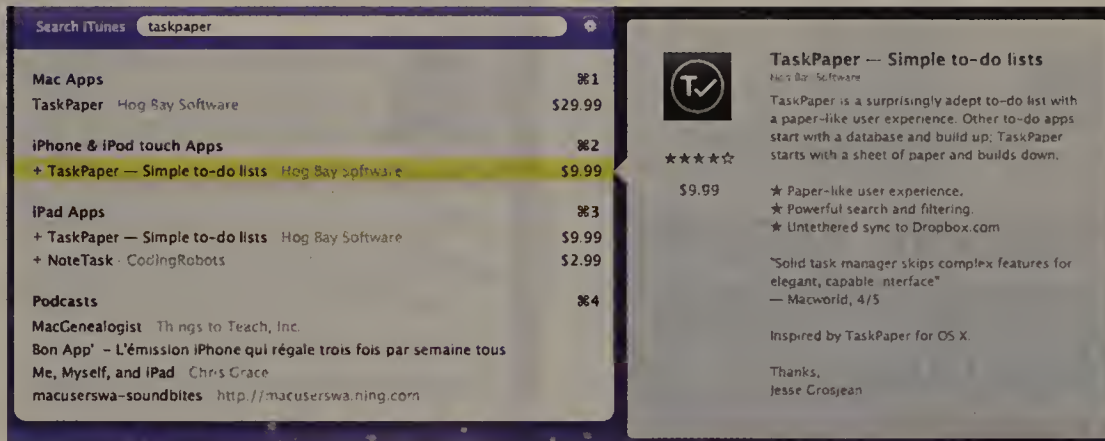
Tunesque 1.1.3

FREE; MTA, TUNESQUE.AFKSTUDIO.COM

Finding media offered through Apple's digital stores could be easier—you search for some items in the Mac App Store, and others in iTunes, with the latter handling so many types of media that you have to wade through lots of stuff you don't want.

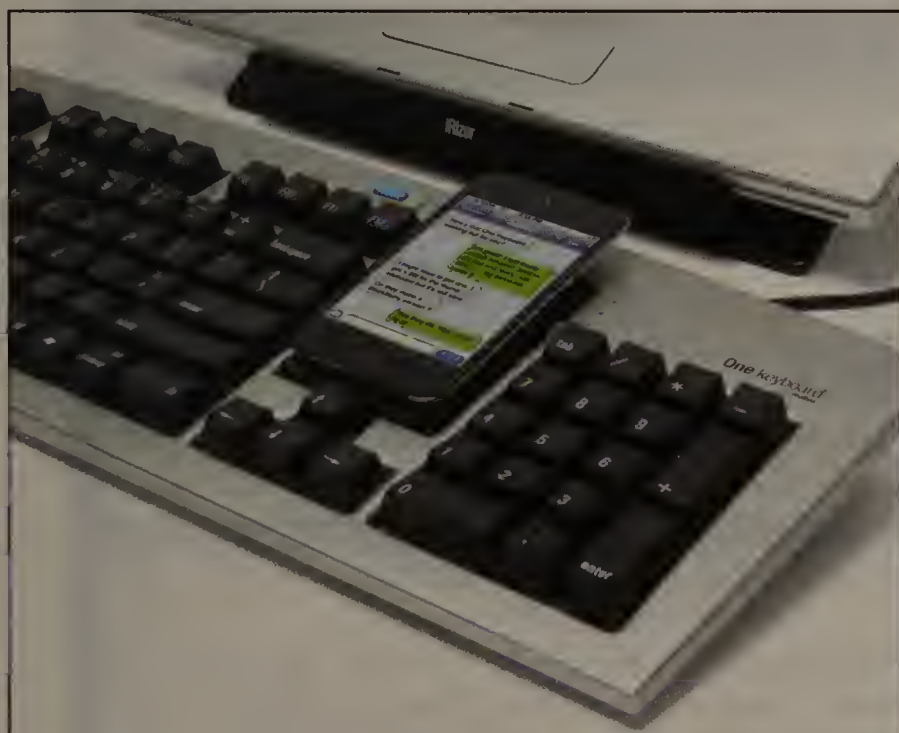
Tunesque is a convenient and free app that consolidates all your searches of Apple-hawked media in a single interface. Click Tunesque's menu-bar icon (or press its customizable keyboard shortcut), and then type your search query—the name of a song, an artist, a book, or an app, for example—and you get a list of results, organized by category. Each result displays the item's title; artist, author, or developer; and price.

Move the pointer over an item, or use the arrow keys to select an item, and a



popover displays more information about it. (For musical artists, the popover even displays a list of all available albums by that artist.) Choose an item and Tunesque whisks you to the appropriate app—Mac App Store or iTunes—and takes you directly to the page for that item.

You can click a category header, or press the keyboard shortcut listed next to that header, to show results for only the chosen category. Other useful options include the capability to choose which country's stores to search and what types of media appear in your search results.



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Our NEW Personal Plus desk features whisper-quiet electric motors that whisk each surface of a fully-loaded desk from 25" to 48" and back again, anytime you want. choose from our full line of electric desks at biomorph.com



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MagSafe Adapter Damaged? Get a New One

BY SERENITY CALDWELL

Apple has a new Adapter Replacement Program in the United States, which will give users a replacement adapter, free of charge, if their current adapter displays signs of strain—that is, fraying near the MagSafe connector, or intermittent charging.

The program applies to both out-of-warranty and in-warranty adapters. You can take your damaged adapter to an Apple Authorized Service Provider or an Apple Store for an evaluation and replacement. Apple does note that not all adapters are covered under its program: If, say, your adapter shows signs of accidental damage, you won't be eligible.

If you've purchased adapter replacements in the past, you may be eligible for the proposed class-action settlement. According to the MagSafe Power Adapter Litigation website (www.adaptersettlement.com), eligible users include those who purchased certain models of MacBook or MacBook Pro computers, or 60W or 80W T-shaped MagSafe adapters, and had to buy a replacement adapter. You have three years from your date of purchase or until May 21, 2012 (whichever comes first), to submit your claim at the website.

The cash payout depends on when you had to purchase a replacement: If you bought one in the first year, you're eligible for up to \$79; within two years, \$50; within three years, \$35. If you purchased multiple replacements, you can apply for up to three refunds per computer.

Apple Names Levinson Board Chairman

BY DAN MOREN

Arthur Levinson has been appointed chairman of Apple's board of directors. The role, which Apple cofounder Steve Jobs previously held, has been vacant since Jobs died in October. Disney CEO Bob Iger has also been named to the board.

Levinson, the current chairman and former CEO of biotech firm Genentech, first joined Apple's board in 2000, and has served as co-lead director of Apple's board since 2005. He has been on all three of the board's committees: audit and finance, nominating and corporate governance, and compensation.

"Art has made enormous contributions to Apple since he joined the board in 2000," Apple CEO Tim Cook said. "He has been our longest serving co-lead director, and his insight and leadership are incredibly valuable to Apple, our employees, and our shareholders."

The Apple board of directors also includes Apple CEO Tim Cook, Intuit chairman and former CEO Bill Campbell, J.Crew chairman and CEO Millard Drexler, former U.S. Vice President Al Gore, Avon chairman and CEO Andrea Jung (the other previous co-lead director of the board), and former Northrop Grumman chairman and CEO Ronald Sugar.

Macs: Current Lineup

PRODUCT	SPECS	RATING	PRICE	DISPLAY	SPEED-MARK 7 ^A	FIND CODE ^B
DESKTOP						
iMac 	Intel Core i5/2.5GHz (quad-core)	★★★★	\$1199	21.5 inches	211	7197
	Intel Core i5/2.7GHz (quad-core)	★★★★	\$1499	21.5 inches	229	7198
	Intel Core i5/2.7GHz (quad-core)	★★★★	\$1699	27 inches	225	7199
	Intel Core i5/3.1GHz (quad-core)	★★★★	\$1999	27 inches	241	7200
Mac Mini 	Intel Core i5/2.3GHz	★★★★	\$599	not included	132	7429
	Intel Core i5/2.5GHz	★★★★	\$799	not included	161	7430
Mac Pro 	Intel Xeon/2.8GHz (quad-core)	★★★★	\$2499	not included	219	6458
	Intel Xeon/2.4GHz (eight-core)	★★★★	\$3499	not included	235	6459
	Intel Xeon/2.66GHz (12-core)	★★★★	\$4999	not included	n/a ^C	6460
PORTABLE						
MacBook Air 	Intel Core i5/1.6GHz, 64GB	★★★★★	\$999	11 inches	146	7425
	Intel Core i5/1.6GHz, 128GB	★★★★★	\$1199	11 inches	152	7426
	Intel Core i5/1.7GHz, 128GB	★★★★½	\$1299	13 inches	166	7427
	Intel Core i5/1.7GHz, 256GB	★★★★½	\$1599	13 inches	162	7428
MacBook Pro 	Intel Core i5/2.4GHz (dual-core)	★★★★	\$1199	13 inches	146	7532
	Intel Core i7/2.8GHz (dual-core)	★★★★½	\$1499	13 inches	164	7533
	Intel Core i7/2.2GHz (quad-core)	★★★★	\$1799	15 inches	190	7534
	Intel Core i7/2.4GHz (quad-core)	★★★★	\$2199	15 inches	219	7535
	Intel Core i7/2.4GHz (quad-core)	★★★★	\$2499	17 inches	216	7536

n/a = not available. ^A Speedmark 7 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.7 (Lion). For more information on Speedmark testing, go to macworld.com/7487. ^B In a browser's address field, typing in a find code after macworld.com/ takes you to a product's review or overview. ^C This system has not yet been assigned a Speedmark score.



1984



1992



2000



2012

Here's to 28 more years of Three Guys on a Cart.

Little did we know that this "Wouldn't it be funny?" moment would become an icon. But in a world filled with disposable products, maybe it's good to make a blatant show of

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Hands On with GarageBand for iOS

Latest update gets cut down to size for the iPhone, goes big with new features

BY CHRISTOPHER BREEN

REVIEW

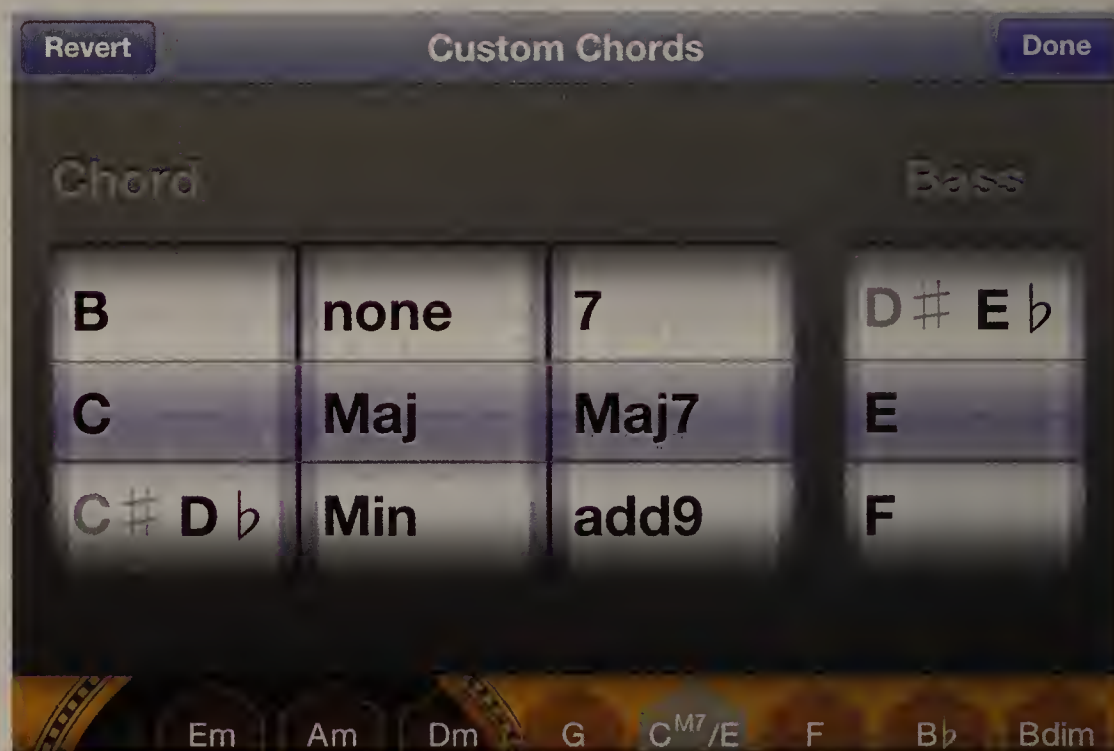
When it comes to the mobile version of GarageBand, Apple faces a dilemma: How do you improve on what's already a remarkable music app? The answer comes in the form of GarageBand 1.1: Make the formerly iPad-only app also run on the iPhone and iPod touch (assuming you have at least an iPhone 3GS or later model or a third-generation touch or later). The update also adds a number of changes that will certainly appeal to serious musicians. Plus, it allows those without a dominant music gene to experience the thrill of creating a tuneful composition. (GarageBand is one of our music apps of the year. To find out why, see *Macworld's 2011 App Gems Awards*, page 42.)

The Small Screen

At first blush, it's hard to imagine how GarageBand could work on an iOS device other than the iPad. But Apple cleverly redesigned the interface for the iPhone and iPod touch so that you use popover menus and tabs to select the functions you need.

It's hard to imagine how GarageBand could work on an iPhone or iPod touch. But Apple cleverly redesigned the app's interface.

A nice new mini-track feature makes it easier to edit tracks on any iOS device. When in an instrument screen, you see a green bar just under the play controls where measures are denoted. If you swipe down on this bar, a mini-track appears, letting you cut, copy, delete, loop, shorten, or split the track. You can't edit notes, however.



Custom Chords The new chord-editing feature allows you to create richer chords for autoplay instruments.

Performance and Sound

Anyone who has attempted to make music on a surface about the size of a playing card probably wonders how easy it is to perform on an iPhone Garage-

Band instrument. It depends on which instrument you're playing. The guitar and bass instruments feature the same eight frets as they do in the iPad version. Naturally, they're roomier on the iPad, but it's not difficult to tap the correct fret on the app's smaller version. It's also very easy to whap the correct drum when using the drum instrument.

The keyboard instrument is a different matter. By default the iPad version offers a two-octave keyboard; on the iPhone, you get a one-octave keyboard. Apple has done a nice job of ensuring that the note you intend to play actually plays, but a single octave doesn't give you a lot to work with.

Built-in instruments and loops sound the same on the iPhone as they do on the iPad. These elements are more limited than what you get with the Mac version of GarageBand, though. Fortunately, you can now import additional sounds to use as loops in your songs.

Timing and Chords

GarageBand was largely designed with popular music in mind, and most popular music is written in the 4/4 time signature (meaning that there are four beats in

a measure). However, $\frac{3}{4}$ (three beats per measure) and $\frac{6}{8}$ (six beats per measure “felt” in two groups of three beats) are also popular choices for ballads and pop. Version 1.1 supports these two additional time signatures, though Apple doesn’t include any loops that use them.

Also, whereas the original version of GarageBand for iOS confined you to specific chords when you used the autoplay feature, the Smart Bass, Smart Guitar, and Smart Keyboard instruments now let you dial in four chord parameters—the chord name, the triad structure, a fourth chord note, and any root note. When you edit a chord, it remains edited for all smart instruments.

The Right Touch

GarageBand attempts to detect how hard you’ve tapped the screen and produces a louder or softer sound based on the fierceness of that tap—a feature that was, quite literally, a hit-and-miss affair in the original version. GarageBand 1.1 addresses this issue by giving you the option to adjust the sensitivity setting.

The High setting means that the app is highly sensitive to your taps. Tap very lightly, and you get a soft sound. Medium means you can be a little more cavalier about the strength of your taps. The Low setting forces you to tap the bejeebers out of the screen to produce a really loud sound or barely touch it to get a softer version. And Off produces the same result regardless of how delicate or overbearing your effort. Good for



On Track On the iPhone version of GarageBand, swipe to the right to expose the track controls.

GarageBand’s designers for devoting their attention to this feature, as it was a clever idea that now works better.

Other Changes

Version 1.1 introduces some other enhancements worth noting.

Quantization A term familiar to musicians who’ve worked with sequencers and digital audio workstations, *quantization* simply imposes a rhythmic grid on your music and forces any notes that don’t land on one of the grid lines to shift over so that they play on whatever value you’ve set. In the original version of GarageBand, quantization was strict—if you chose a 16th-note grid, by gum, that’s where those notes fell. GarageBand 1.1 adds swing and triplet quantization, which can give your playing a looser, swingier feel.

Arpeggiator Based on the Italian *arpeggio*—a musical term that means playing a chord as successive single

notes—you can now arpeggiate not only the keyboard and Sampler instruments, as you could before in GarageBand, but also the Smart Keyboard.

Merge Recordings Implemented only in the drum instrument in the past, Merge Recordings is now available for the keyboard, Smart Guitar, Smart Bass, and Sampler instruments.

Import and Export Options GarageBand 1.1 now supports the import of AIFF, WAV, CAF, Apple Loops, AAC, and MP3 files. This is a big deal not simply because GarageBand converts these file types so that they work with the app, but also because this is your avenue for importing loops into the app. On the export side of things, if you’ve enabled Wi-Fi syncing for your iOS device, you can go to the My Songs screen and wirelessly transfer your audio and GarageBand compositions to your computer.

Macworld’s Buying Advice

GarageBand 1.1 is a remarkable musical powerhouse that can be had for a song. It’s a better experience when run on the iPad, because you have a larger work surface and you can use GarageBand with external controllers and microphones. But the fact that Apple could create a version as accessible as this for even the smallest iOS devices is a testament to the brilliance of GarageBand’s designers. Plus, the improvements in this version of the app make it a more refined musical tool.

★★★★; \$5; Apple, www.apple.com



All in the Timing

You hear the new $\frac{3}{4}$ and $\frac{6}{8}$ time signatures reflected in autoplay patterns.

Get Better Battery Life from Your iOS Device

Dissatisfied with iOS 5.0.1's fixes? Take on your power problems.

BY CHRISTOPHER BREEN

Apple's iOS 5.0.1 update, released in November, looked to stop the excessive battery drain that has been going on with devices running iOS 5. The results have been decidedly mixed. While some users have reported that their iOS devices aren't as power hungry as before, even Apple acknowledges that it's still trying to get a handle on iOS 5's power demands.

Not content to wait for Apple to finish that investigation? Check out these four areas, which could account for some of your power problems.

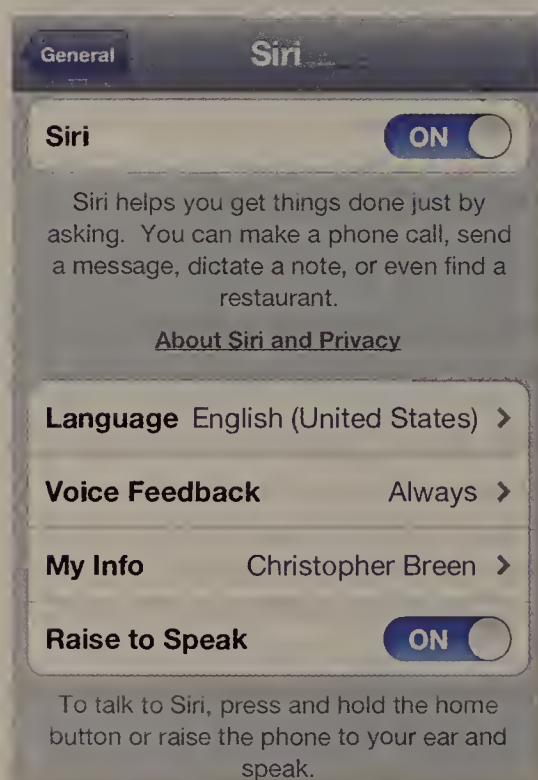
Location Services Your iOS device can tell apps where you are, but that puts a burden on your battery. You can switch location services off entirely by going to Settings ► Location Services and flicking the Location Services switch to the Off position. But that's an extreme action and one you can likely avoid. Instead, scan down the list of apps and take a gander at which ones are currently using

those services (denoted by a purple arrow). Do you really need those apps to broadcast your location? If not, switch them off.

Siri If you've got an iPhone 4S, go to Settings ► General ► Siri and disable the Raise To Speak option. This convenient feature invokes Siri whenever you lift the phone to your face, but I've seen reports that it can drain the battery pretty fast. With this option off, all you have to do to awaken Siri is press and hold the Home button. I'd avoid disabling Siri altogether. That wipes all the information it has gleaned from you off Apple's servers—so when you switch your device back on, Siri has to resync that data with the cloud, burning up power in the process.

Push It's always been true that when you push data to your iOS device, that puts a strain on the battery. To preserve your battery charge, turn push off by going to Settings ► Mail, Contacts, Calendar ► Fetch New Data and flipping the Push switch off. Your device now fetches data with a setting of your choosing—every 15 minutes, every 30 minutes, every hour, or manually. The manual option saves the most power.

iCloud The ability to move data automatically between your iOS device and the cloud is fabulous, but it can also deplete your battery in short order. Go to Settings ► iCloud and take a stern look at the options you find there. If you don't routinely create contacts, events, reminders, bookmarks, and notes on your device and you're willing to forgo automatically receiving updates when you create those items on other devices, consider switching some or all of these options off. Photo Stream is another option to carefully consider, because when it's switched on, every picture you take with your iOS device gets uploaded to the cloud.

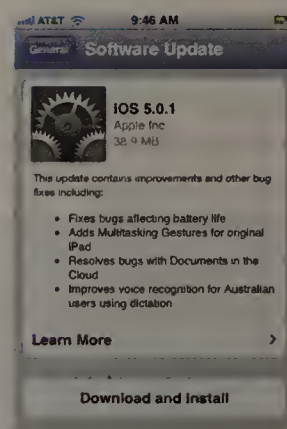


Speak No More Disable Siri's Raise To Speak option to save power.

Over-the-Air iOS Updates Arrive

BY LEX FRIEDMAN

Apple promised that iOS 5 would allow iPhone, iPod touch, and iPad users to install iOS updates directly from their devices without



having to visit iTunes. The iOS 5.0.1 update was our chance to see that promise in action. Here's how it works.

On your iOS device, launch Settings, tap General, and then tap Software Update. Your device displays details of an update, along with a Download And Install button. iOS then suggests that you plug your device in during the upgrade process to conserve battery charge, but that's not a must unless your battery is less than half full. (With less than 50 percent power, you can download the update, but you have to plug in the device before you can install that update.)

With the relatively small 5.0.1 update on a high-speed Internet connection, the download takes less than a minute. The second step—Preparing Update—starts automatically and takes a little bit longer. You can use your device during this part of the process; iOS prompts you when it's ready to install the software, giving you ten seconds to choose whether to install the update now or later.

A Verifying Update message appears, and then your device restarts to the Apple logo. Next, a progress bar shows up beneath the logo. Once the progress bar fills up, your device restarts to the Apple logo again. When your device restarts a third time and your lock screen appears, your updated device is good to go.

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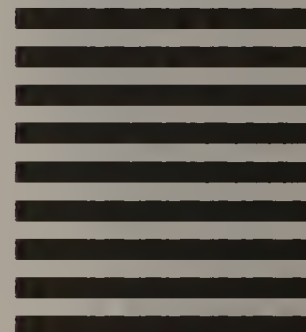
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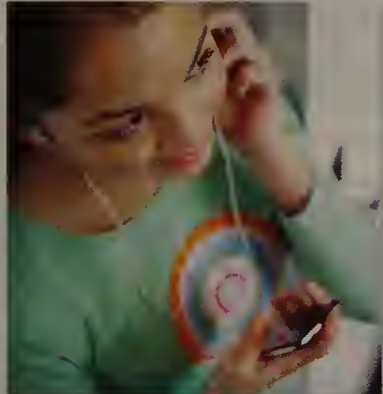
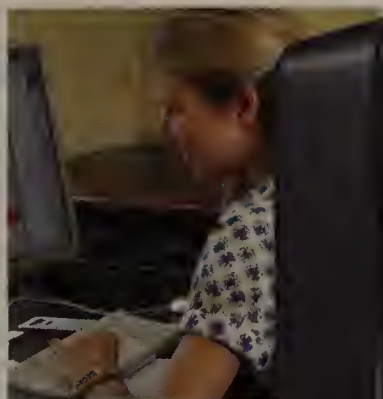
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The energy-efficient ES 750G

The Back-UPS ES 750G boasts innovative power-saving outlets, which automatically shut off power to unused devices when your computer is turned off or is on standby, eliminating wasteful electricity drains.

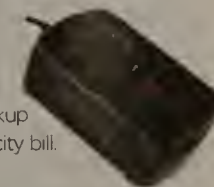
- 10 Outlets • 750 VA/450 Watts
- 70 Minutes Maximum Runtime
- Coax and Telephone/Network Surge Protection



The best-value ES 550G

The Back-UPS ES 550 uses an ultra-efficient design that consumes less power during normal operation than any other battery backup in its class, saving you money on your electricity bill.

- 8 Outlets • 550 VA/330 Watts
- 43 Minutes Maximum Runtime
- Telephone Surge Protection



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Adobe Cans Mobile Flash

BY DAN MOREN

Apple famously turned its back on supporting the mobile version of Adobe's Flash technology on its iOS devices. Now Adobe is following suit—the company announced that it's no longer developing Flash for mobile platforms.

"Our future work with Flash on mobile devices will be focused on enabling Flash developers to package native apps with Adobe AIR for all the major app stores," wrote Danny Winokur, Adobe's vice president and general manager of interactive development, in a November blog post (which you can read at macworld.com/7556).

Instead of working on Flash for mobile platforms, Winokur says, Adobe will focus on improving its HTML 5 tools and letting developers write mobile apps using Adobe's cross-platform AIR runtime component. And, of course, Adobe plans to continue developing Flash on the desktop, where it will work hand-in-hand with HTML 5, the next generation of underlying technology for creating websites.

It's been a bumpy road for mobile Flash, punctuated by Steve Jobs's April 2010 dismissal of the technology as crash-prone and a battery hog, among other faults. Adobe consistently had trouble whipping Flash into shape on any mobile platform, encountering performance problems that seemed to prove Apple's argument. While tablets powered by Android and



RIM's BlackBerry OS have touted Flash support as an advantage over the iPad, consumers haven't agreed—the iPad remains the leader in the tablet market.

With Adobe now waving the white flag for the mobile version of Flash, it's hard not to wonder about the technology's fate on the PC as well. Apple has already stopped including the plug-in on shipping systems; users who want it have to download it for themselves. Flash is likely to stay around for a while longer, but with much of the innovation happening in the mobile arena, it's hard to imagine that software makers will continue to embrace a technology that's reaching fewer and fewer platforms.

SPOTLIGHT ON IPHONE ACCESSORIES

Pocket Projector for iPhone 4

Compared to other iPhone cases, the \$230 Pocket Projector from Texas Instruments and Brookstone (macworld.com/7557) doesn't offer a lot in the way of protection. Then again, most other iPhone cases don't include a built-in projector powered by a 15-lumen LED projection lamp and Texas Instruments' DLP Pico projector technology. The company claims that the tiny projector, designed for dim or dark rooms, can project an image of up to 50 inches with a 640-by-360-pixel native display resolution; a small dial lets you adjust the projector's focus, while a 0.5-watt speaker provides sound. The Pocket Projector works with any app that supports dock-connector video out, including the iPhone's built-in Videos, Photos, and YouTube apps, in addition to third-party apps that offer this feature.—DAN FRANKS



What's New at the App Store



Rolling Stone Headed to iPad

Wenner Media plans to release an iPad-optimized version of *Rolling Stone*, the music and pop culture magazine, by early 2012. The tablet version will augment articles from the print edition with song samples and interviews. Another app from Wenner, *Rolling Stone's Beatles Album-by-Album Guide* (macworld.com/7579), hit the App Store in December; it's designed for the iPad and features detailed articles and multimedia content focusing on the Beatles' music.—JOEL MATHIS



Livestand 'Digital Newsstand' App Debuts

It may have launched several months after its promised debut, but Yahoo's Livestand (macworld.com/7554) has hit the App Store. The free app delivers articles, photos, videos, graphics, and ads from Yahoo sites and from third-party online publications in a format optimized for Apple's tablet. Livestand can also tailor content to readers' preferences and tastes.

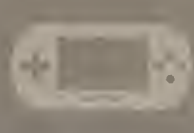
—JUAN CARLOS PEREZ



Build iPad Apps on Your iPad with Codea

Software developers who want to create games and simulations on their iPad have a new option. Codea (macworld.com/7555), an \$8 app from Two Lives Left, allows users to code software using the Lua programming language, with tap-and-drag features for changing numbers, colors, and images within the app's visual editor. Codea can't yet import or export code, meaning users' creations remain locked on their iPad, but the developer is hoping to add that capability in an update.

—JOEL MATHIS



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REVIEWS

Accessories and Add-ons
for Your iOS Devices



HARDWARE

Amhipod Beltpod SmartView Δ

The water-resistant Beltpod Smartview keeps your iPhone or iPod touch safe from sweat and light rain. The case features a pouch with a cushioned back and a clip that latches onto the waistband of your shorts or sweats. A thick, clear plastic front lets you access your iPhone's screen without having to remove it from the pouch. There's no built-in headphone connector, so you can't zip the pouch entirely shut, but your device should be mostly safe from the elements.

★★★★; \$22; Amhipod, amhipod.com

Incase Origami Sleeve Δ

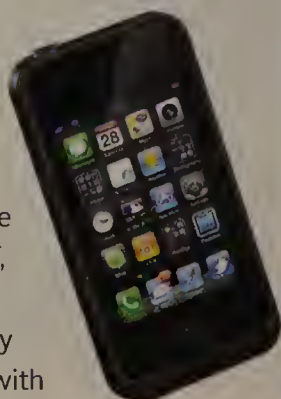
There's nothing complex about the folds of the Origami Sleeve.

Available in either black or fuchsia, the Sleeve provides a snug fit for both iPad models, but it also doubles as a viewing stand, with folding tabs that adjust to hold your iPad in either portrait or landscape mode.

★★★★; \$35; Incase, goincase.com

LifeProof iPhone 4/4S Case Δ

The LifeProof iPhone 4/4S case claims to be waterproof, dirt proof, snow proof, and shockproof. It certainly provides your phone with



an elevated level of protection, but with a trade-off—snapping the case into place can be an involved process, and getting your phone out of the case can be even more complicated. Still, you can access all of your iPhone's features when it's inside (though the mute switch can be difficult to reach), and the case is surprisingly light given its protective properties.

★★★★½; \$80; LifeProof, lifeproof.com

PhoneSuit Elite Battery + Case Δ




It may not be the equal of the excellent Mophie Juice Pack Plus (★★★★½; macworld.com)

[.com/7585](http://macworld.com/7585)), but PhoneSuit's Elite Battery + Case is still a very well-designed combination of an iPhone 4 case and a battery booster. Your iPhone slides into the main black shell that houses the battery; a tiny plastic top provides openings for the Ring/Silent switch, volume buttons, On/Off button, head-phone port, and micro-phone. The Elite packs 2100mAh of power—enough to double your iPhone 4's battery life.

★★★★; \$80; PhoneSuit, phonesuit.com



iOS Devices: Current Lineup

PRODUCT	SPECS	RATING	PRICE ^A	DISPLAY	PERFORMANCE	FIND CODE ^B
 iPad 2 ^C	16GB	Wi-Fi, ★★★★★½; 3G, ★★★★★½	Wi-Fi, \$499; 3G, \$629	9.7-inch color	Up to 10 hours on Wi-Fi; up to 9 hours on 3G	7030 Wi-Fi 7031 3G
	32GB	Wi-Fi, ★★★★★½; 3G, ★★★★★½	Wi-Fi, \$599; 3G, \$729	9.7-inch color	Up to 10 hours on Wi-Fi; up to 9 hours on 3G	7032 Wi-Fi 7033 3G
	64GB	Wi-Fi, ★★★★★½; 3G, ★★★★★½	Wi-Fi, \$699; 3G, \$829	9.7-inch color	Up to 10 hours on Wi-Fi; up to 9 hours on 3G	7034 Wi-Fi 7035 3G
 iPhone 3GS, 4, and 4S	8GB 3GS ^D	★★★★½	free	3.5-inch color	9 hours of Wi-Fi Internet; 5 hours of 3G talk time	62SS
	8GB 4 ^E	★★★★	\$99	3.5-inch color (Retina)	10 hours of Wi-Fi Internet; 7 hours of 3G talk time	7S16 GSM 7S20 CDMA
	16GB 4S ^E	★★★★	\$199	3.5-inch color (Retina)	9 hours of Wi-Fi Internet; 8 hours of 3G talk time	7S17
	32GB 4S ^E	★★★★	\$299	3.5-inch color (Retina)	9 hours of Wi-Fi Internet; 8 hours of 3G talk time	7S18
	64GB 4S ^E	★★★★	\$399	3.5-inch color (Retina)	9 hours of Wi-Fi Internet; 8 hours of 3G talk time	7S19
 iPod Touch	8GB	★★★★½	\$199	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6553
	32GB	★★★★½	\$299	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6554
	64GB	★★★★½	\$399	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6555

^AAll prices are Apple's prices. ^BIn a browser's address field, typing in a find code after macworld.com/ takes you to a product's review or overview. ^CThere are separate Wi-Fi + 3G iPad 2 models for AT&T's network and for Verizon's. ^DThis phone is available only with an AT&T plan. ^EThese models are available with an AT&T, Sprint, or Verizon plan.

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SEIDIO
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Pictured: (Left) SURFACE Extended in Desktop Cradle & (Right) Surface Holster Combo.

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THE 27TH
Annual

EDITORS' CHOICE AWARDS

The Editors' Choice Awards (we affectionately call them the Eddys) recognize our favorite products released during the past year. It's a project we take very seriously.

Starting with a list of more than 130 candidates, we spend weeks discussing each product, debating its merits, and deciding whether it fulfills our standards of quality, utility, innovation, value, and excellence.

The result of all this is the list presented here, the 23 best products of 2011. We've divided the list into five categories: MacUser (general purpose), Working Mac (business and productivity), Playlist (digital entertainment), Create (creative pursuits), and iOS Central (iPhone, iPad, and iPod touch products, excluding apps). Take a look at the list, and you'll surely find a set of tools that will help you get things done.

PHOTOGRAPHY BY PETER BELANGER

The 27th Annual
EDITORS' CHOICE
AWARDS

MacUser

11-Inch MacBook Air

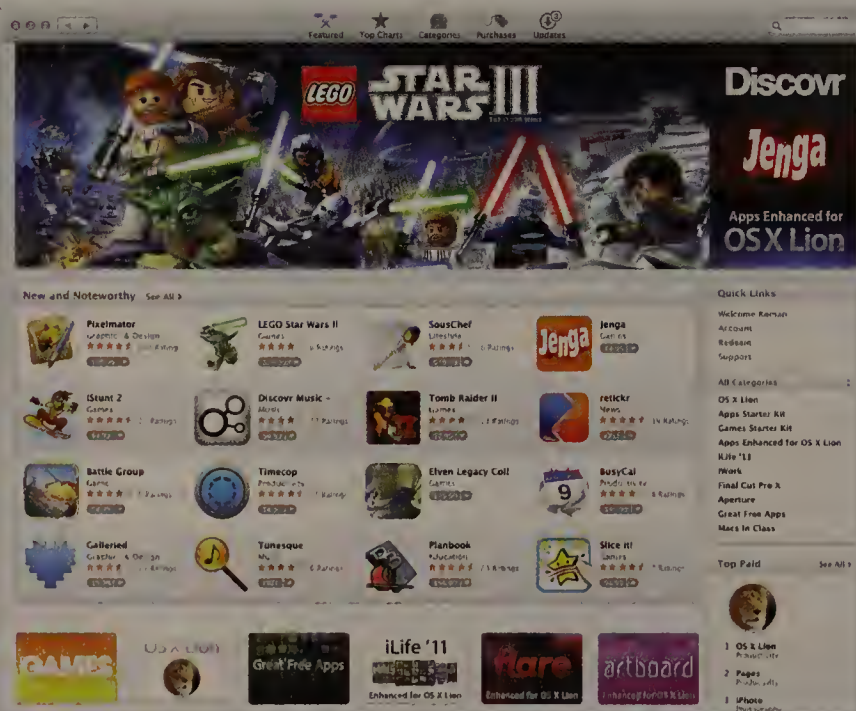
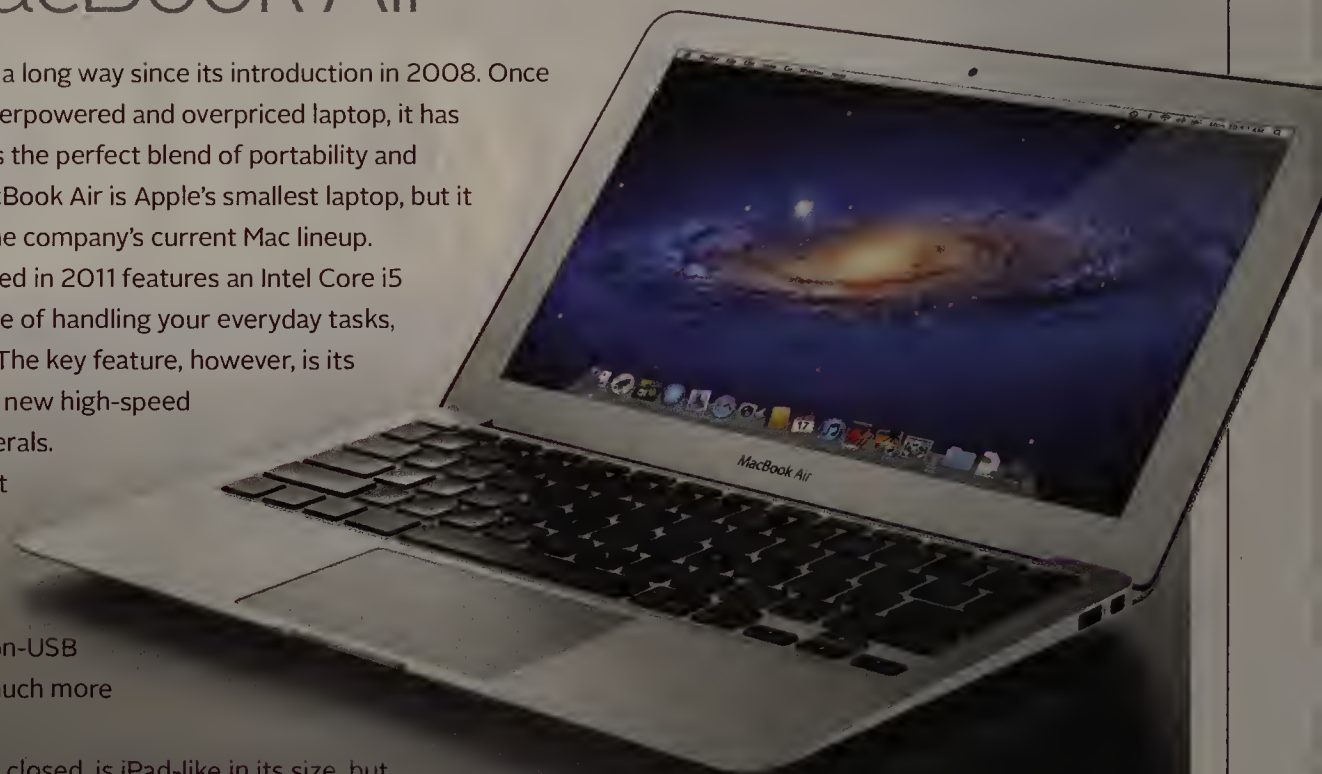
➔ The MacBook Air has come a long way since its introduction in 2008. Once widely thought of as an underpowered and overpriced laptop, it has evolved into a machine that strikes the perfect blend of portability and processing power. The 11-inch MacBook Air is Apple's smallest laptop, but it has had an enormous impact on the company's current Mac lineup.

The 11-inch MacBook Air released in 2011 features an Intel Core i5 processor that's more than capable of handling your everyday tasks, as well as a few heavy-duty ones. The key feature, however, is its implementation of Thunderbolt, a new high-speed technology for connecting peripherals.

Thunderbolt allows you to use fast Thunderbolt hard drives, RAID arrays, and other devices with the MacBook Air. By opening up the MacBook Air to non-USB devices, Thunderbolt makes it a much more appealing system.

The 11-inch MacBook Air, when closed, is iPad-like in its size, but open it up and you have a full-size laptop. It doesn't feel cramped, thanks to its high-resolution display. Most important, it doesn't feel like Apple made compromises in the laptop's quality and construction to achieve its small size.—ROMAN LOYOLA

\$999 AND \$1199; APPLE, APPLE.COM



MAC APP STORE

➔ The Mac App Store transformed the Mac software market when it opened a year ago. These days it's stocked with thousands of apps, including Mac OS X 10.7 and most of Apple's own software, and buyers of recent Macs even turn to it to update or reinstall their iLife apps.

The App Store offers a curated, easily browsable repository of software that's free of viruses and malware, and it lets you install new apps with a couple of clicks. Updates are even easier: Simply click a button to update all your purchases. We still have concerns about how the store's policies affect certain types of software, as well as about upcoming "sandbox" restrictions. But the benefits currently outweigh the drawbacks.—DAN FRANKS

FREE; REQUIRES MAC OS X 10.6 OR LATER; APPLE, APPLE.COM

Portal 2

Not only was Portal 2 named one of the year's best games, but Valve Software released the Mac version at the same time as the other iterations—no waiting required. Since the game's release last April, Mac users have been indulging in the fun puzzles, puns, and gameplay of Portal 2, the follow-up to 2007's Portal.

Portal 2 asks you to solve puzzles using interspatial portals under the guise of "testing." The sequel vastly expands upon the world of the first game, introducing new plot points, gameplay elements, and characters. A fantastically fun co-op mode lets you and a partner take control of sentient robot testers to save science together.

Portal 2 also hits that rare note many titles strive—and fail—to find: It's accessible to both hard-core gamers and people with little or no interest in traditional video games.—**SERENITY CALDWELL**
\$30; VALVE SOFTWARE, STEAMPOWERED.COM



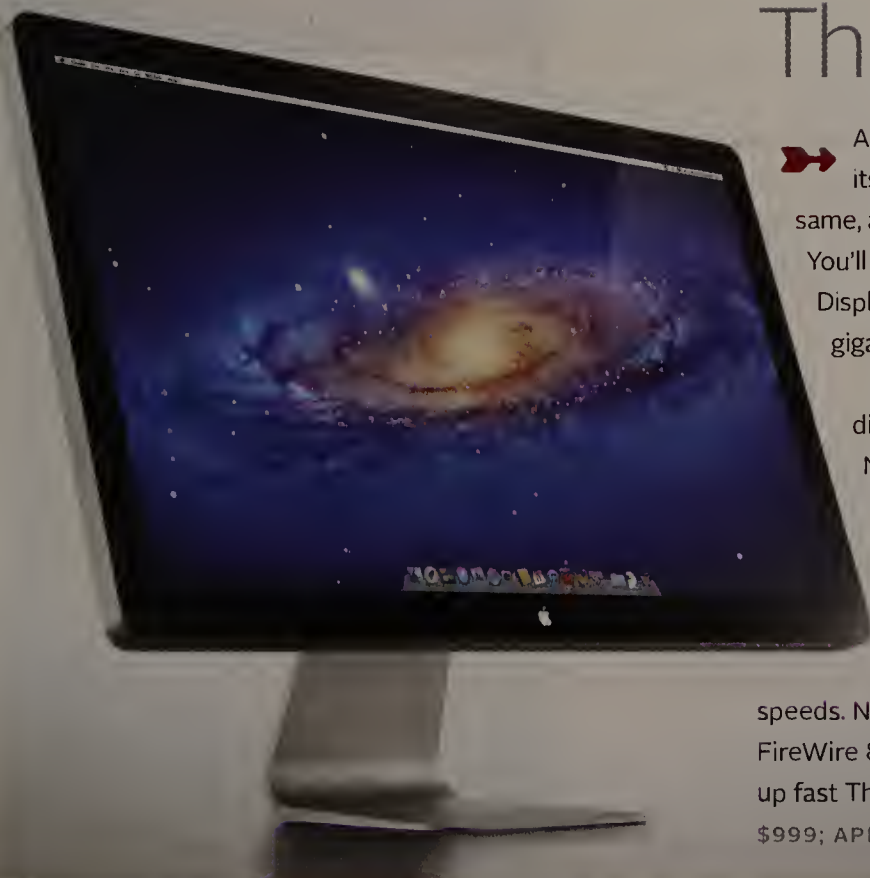
Thunderbolt Display



Apple's 27-inch Thunderbolt Display has a lot in common with its 27-inch LED Cinema Display—they look the same, cost the same, and use identical 2560-by-1440-pixel backlit LED screens. You'll find the major difference on the back of the Thunderbolt Display, which offers three USB 2.0 ports, a FireWire 800 port, a gigabit ethernet port, and a Thunderbolt port.

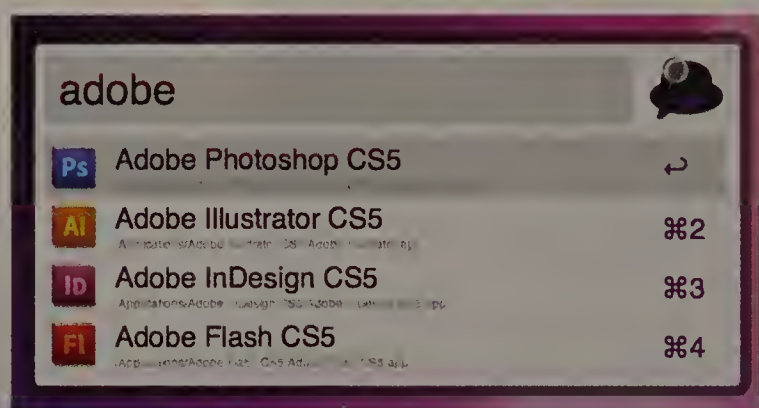
Compatible only with Thunderbolt-equipped Macs, this display should be most attractive to owners of the 2011 MacBook Air, as the Thunderbolt Display brings some seriously fast I/O connections never before available to Apple's smallest laptop. Before the Thunderbolt Display came out, connecting a MacBook Air to a wired LAN required an optional USB-to-ethernet connector, and external drives were limited to slow USB 2.0 transfer speeds. Now, MacBook Air users can use gigabit ethernet and FireWire 800 through the Thunderbolt Display while also hooking up fast Thunderbolt drives.—**JAMES GALBRAITH**

\$999; APPLE, APPLE.COM



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WorkingMac



Alfred

➔ For years, we've had the Big Three launcher utilities: LaunchBar, Butler, and Quicksilver. All three let you launch apps, open files, and perform other Mac tasks with a few quick keystrokes. This year, a fourth launcher came into its

own—and some of us like it best of all. Alfred, from Running with Crayons, may not have all the bells and whistles those others do, but it's way easier to use. As soon as you install it, Alfred can find and launch any app or file on your system (assuming that Spotlight has indexed it). And if you add the optional Powerpack (€12), it can do a whole lot more: show you lists of recent documents for specific apps, recall snippets from your Clipboard, set global hotkeys for apps and files, and more.

Even better, Alfred is now extensible: Anyone who wants to can create and distribute extensions that run AppleScripts, shell scripts, Automator workflows, and custom file filters. There's an ever-growing library on the Alfred website of such extensions, which do everything from converting currencies and checking your connection speed to posting updates on Twitter and Facebook. Here's hoping that as it gains in strength and capabilities, Alfred never loses the simplicity that makes it great.—DAN MILLER

FREE; RUNNING WITH CRAYONS, ALFREDAPP.COM

Fantastical

➔ There are a number of Mac utilities that offer a drop-down calendar in the menu bar, or that provide a quick look at your upcoming schedule, or that let you create new calendar events without having to open iCal. But Flexibits' Fantastical is unique in providing all these features and more, and it does so in a beautifully designed package that for many people can completely replace a full-blown calendar program such as iCal.

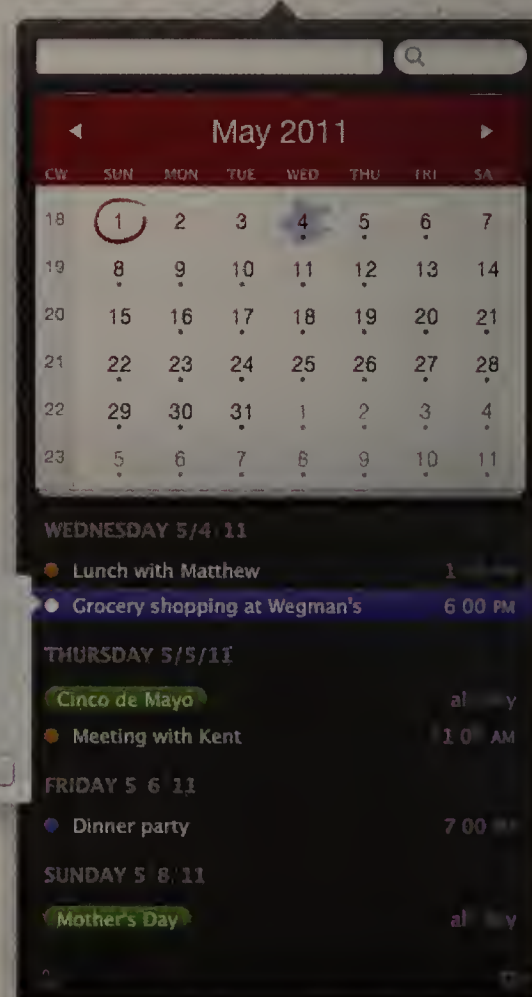
A click on its menu-bar date display shows you a calendar, with all your upcoming events listed below; click an event in the list to view or edit its details. You can create a new event by simply typing a natural-language description of it: 'Lunch with Janet Friday at Pasta Palace.' While you can do the same thing with iCal in Lion (Mac OS X 10.7), Fantastical works more smoothly. And Fantastical is as flexible as it is functional—it can work with any calendar you've set up in Apple's iCal, BusyMac's BusyCal, or Microsoft's Entourage or Outlook, as well as with MobileMe, iCloud, Google Calendar, and Yahoo Calendar accounts.—DAN FRANKS

\$20; FLEXIBITS, FLEXIBITS.COM

Grocery shopping at Wegman's

from 05/04/2011 06:00 PM
to 05/04/2011 07:00 PM
calendar ● Home

Edit



MOOM

➔ If you spend a lot of time working with windows—and many Mac users do—Moom offers a slew of features that make it easier to move and resize them, especially if you frequently use particular window sizes and locations. For starters, Moom makes a window's little green Zoom button more useful: Move the cursor over that button, and you can instantly reposition and resize the current window, either by choosing one of the preset window layouts or by drawing, on a grid representing your screen, the position and size you desire; the window instantly assumes its new configuration on the screen. Alternatively, you can press a keyboard shortcut to bring up Moom's keyboard-control overlay, which offers the same options (and more) for keyboard jockeys.



If Moom's presets aren't to your liking, you can create your own custom window layouts and activate them with a click or a hotkey. Moom can also take a snapshot of your screen and later restore all windows to that layout—doing so on your command or automatically when it senses a different display configuration.—**DAN FRAKES**

\$5; MANY TRICKS, MANYTRICKS.COM

Tweet Marker



➔ Twitter, the 140-character social networking service, has become so popular that there are literally hundreds of different Twitter clients out there, covering every computing platform. As a result, many Twitter users access the service from multiple apps, leading to one of Twitter's biggest nuisances: When you launch, say, Tweetbot on your iPhone, you

have to scroll up and down your timeline, perhaps loading additional messages, until you find the spot where you left off in Twittrific on your Mac earlier that day.

Tweet Marker aims to fix this problem. A free service for Twitter-client developers, Tweet Marker notes your position in the main and Mentions timelines, allowing multiple Twitter apps to keep those positions in sync. So when you close, say, Tweet Speaker on your iPhone as you get out of the car, Tweet Marker notes your timeline position; when you walk into the office and launch Twittrific on your Mac, it knows right where to pick up.

The biggest drawbacks to Tweet Marker are that only a handful of clients have started using it, and not all of them have implemented it perfectly. But Tweet Marker has changed—for the better—how we use Twitter. Here's to seeing it in every Twitter client.

—**DAN FRAKES**

FREE (INTEGRATED INTO TWITTER CLIENTS); RIVERFOLD SOFTWARE, TWEETMARKER.NET

Promise Pegasus R6

➔ Thunderbolt peripherals took a little while to come to market. The Pegasus R6 RAID array, from Promise Technology, was among the first.

Our Macworld Lab tests showed that the R6 using Thunderbolt was nearly seven times faster than a similar RAID array using FireWire 800 in the AJA System Read test, which simulates data transfers done by professional video equipment. The AJA System Write test results were even more impressive; the R6's Thunderbolt connection was 11 times faster than FireWire 800.

The R6 features six 7200-rpm 2TB hard drives, preconfigured as a RAID 5, but you

can change the RAID to level 0, 1, or 10. The drives are hot swappable, so you can replace a drive on the fly. And the R6 has two Thunderbolt ports, so it's easy to daisy-chain multiple Thunderbolt devices. If you have a Thunderbolt Mac and you edit video, audio, or images, or you perform other disk-intensive tasks, you'll quickly come to appreciate the Pegasus R6.

—**ROMAN LOYOLA**

LEAD, PROMISE TECHNOLOGY, PROMISE.COM



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Create

Jam

➔ The Apogee Jam is an easy-to-use guitar interface that works with your iOS devices as well as your Mac. A 1/4-inch input on the bottom lets you connect your electric guitar or bass. A connector on the top allows you to hook the Jam to your Mac or your iPhone's or iPad's dock connector. Most other iOS guitar interfaces use the headphone jack to connect, but the dock connector provides a cleaner signal with less unwanted noise.

The Jam also includes a gain slider for adjusting your input level.

With its clean signal and versatility, the Apogee Jam is a must-have guitar gadget.—JAMES GALBRAITH

\$99; APOGEE ELECTRONICS,
APOGEEDIGITAL.COM



CANON EOS REBEL T3i



➔ The Canon EOS Rebel

T3i ranks at the top of its class of DSLR cameras. It captures impressive images and videos—it scored the highest marks in image quality of all the DSLRs we reviewed this year.

Beyond its image-taking capabilities, the Rebel T3i also sports a well-designed body, with an adjustable LCD monitor. If you love image filters, you'll love playing with the camera's built-in Creative Filters mode. This is far from a toy camera, though; it's a top-notch option, whether you're an entry-level photographer looking to purchase your first DSLR or an avid hobbyist making an upgrade.—ALEXANDRA CHANG

\$800 WITH 18-55MM LENS; CANON,
USA.CANON.COM

Macworld SUPERGUIDES

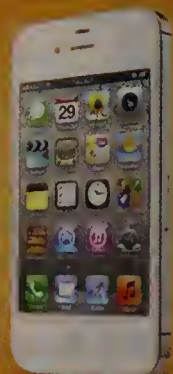
iPad 2
SUPERGUIDE

Macworld SUPERGUIDES

Total Lion
SUPERGUIDE

Macworld SUPERGUIDES

iPhone 4S
SUPERGUIDE



Everything You Need to Know about
the iPhone and iPod Touch

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TypeDNA 2.0

Font managers are utilitarian, helping artists and designers manage thousands of fonts on a system or server. While most designers know what their fonts look like, it's harder to compare and combine multiple fonts into pleasing arrangements. That's where TypeDNA comes in.

TypeDNA offers unique, visually based font locating, harmonizing, and matching functions. The program introduces a creative flare to the process of choosing the right combination of fonts. Features like Similar Fonts, Font Harmony, Attribute Filters, and SmartChoice intelligently assist users in finding similar font alternatives and attractive combinations. It does this by analyzing the unique characteristics of each glyph contained within a font.

TypeDNA is a professional font manager that works both as a stand-alone utility and as a Photoshop plug-in. It's remarkably easy and fun to use for all levels of designers. And, unlike most font utilities, it plays nicely with other font managers you may have installed on your system.—**JACKIE DOVE**

\$49; TYPEDNA, TYPEDNA.COM



Hype 1.0

Hype, an HTML 5 authoring tool, offers an abundance of tools in an easy-to-use interface that generates content without requiring any coding.



Hype's headline feature is its keyframe animation system, which can create the frames between start and stop keyframes. You can also use the program to record your activity on the canvas, and automatically generate the animation.

When you're finished with your creation, you can export it, copy and paste the code into another webpage, or publish it to your public Dropbox folder. The output adheres to strict Web standards: HTML 5 tags, CSS 3, and JavaScript.—**JACKIE DOVE**

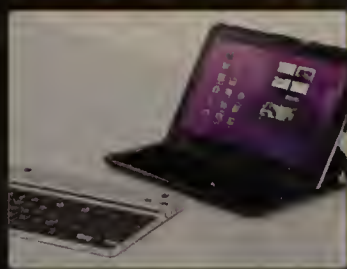
\$30; TUMULT, TUMULTCO.COM

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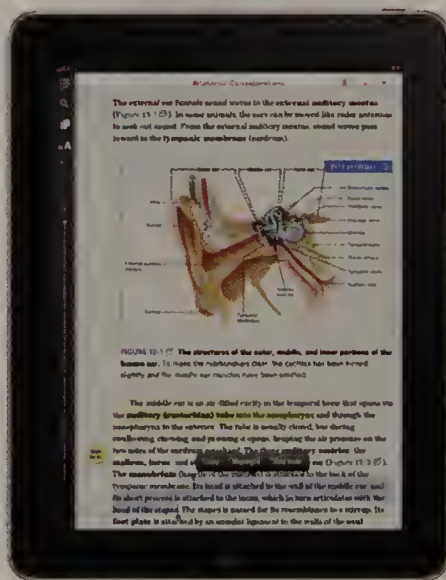
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iOS Central



INKLING 2

➔ Inking shows what reading on the iPad should be like. Inking licenses textbooks from traditional publishers, and then adapts the content for the iPad. But those adaptations aren't just replicas of the print original. Rather, the texts are completely revamped to take advantage of what the tablet can do. Chapters are broken down into "cards," which scroll continuously up and down the screen. Within those cards, interactive multimedia augments the static illustrations—you get full audio and video, but also animated diagrams and rotating wire frames that you can examine from every angle.

Version 2.0, which came out in August 2011, adds social tools: You can now share notes and annotations with classmates and others using the same text. Inking has adapted more than 50 undergraduate and graduate textbooks so far, and that's only the start: The company plans to apply its technology to cookbooks and other reference materials, too. This could well be the future of publishing on the iPad.—**DAN MILLER**
FREE; INKLING SYSTEMS, INKLING.COM

iPad 2

➔ With a new dual-core A5 processor and improved graphics, the iPad 2 is noticeably faster than the original iPad. A pair of new cameras allows iPad 2 users to make FaceTime calls, as well as use the iPad 2 to take photos and shoot 720p video. Apple also improved the support for HDTVs and HD video; with the proper adapter, the iPad 2 outputs HD video at resolutions up to 1080p with Dolby Digital surround sound. All these new features show up in a device that's actually thinner and lighter than the original iPad.

Perhaps best of all, Apple didn't hike the prices for this second iPad generation. That's bad news for competitors, who are still playing catch-up. With the iPad 2, Apple reset the standard of excellence for tablets, and that's good news for

—ROMAN LOYOLA

\$499 TO \$829; APPLE, APPLE.COM



iOS 5

➔ iOS 5 brought a number of significant improvements. Among them were a revamped notification system, iMessage, a whole host of features that free users from the tether of USB cables, over-the-air software updates, Wi-Fi syncing, and improved controls for managing media without having to resort to a computer. And that's before we even mention iOS 5's integration with Apple's free iCloud service.

With iOS 5, Apple shows that it's not resting on its laurels in the mobile market, but rather is dedicated to continuing to bring new features and functionality to its devices and to defending its place at the forefront of innovation.

—DAN MOREN

FREE; APPLE, APPLE.COM



Mophie Juice Pack Plus

➔ The Juice Pack Plus from Mophie packs in 2000mAh (milliamps) of power, enough oomph to more than double your iPhone's battery life. The rubbery case feels quite grippy, and the buttons offer an equally satisfying tactile feel.

There are a few features every iPhone battery pack should offer, and the Juice Pack Plus has them all: It provides a switch to toggle the battery on and off; it includes four LEDs to indicate the current charge level; it lets you charge your phone and the battery simultaneously; and it dramatically improves the phone's battery life.—**LEX FRIEDMAN**

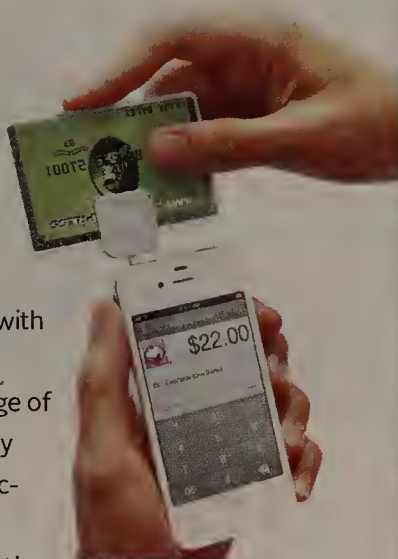
\$100; MOPHIE, MOPHIE.COM

Square

➔ The team at Square aims to revolutionize payment processing. The company gives away free iOS dongles and apps that let businesses and individuals accept credit card payments. These devices and apps make the process simple: Just enter the amount, swipe your card, sign the touchscreen with your finger, and you're done.

The company makes its money by taking a small percentage of each payment (2.75 percent). Payments are deposited directly into your bank account, and you can view a list of your transactions in the app or online.

The simple price structure cuts through the often byzantine terms offered by other payment processors, and the integration with popular mobile platforms like iOS and Android means that pretty much anybody can quickly start processing credit card purchases. The company focuses on creating a payment experience that is easy, elegant, and secure—oh, and did we mention affordable?—**DAN MOREN**
FREE; SQUARE, SQUAREUP.COM



Nomad Brush

➔ The Nomad Brush is an iPad stylus that helps you create works of art by painting and drawing. Using a blend of natural and synthetic fibers, the stylus retains the feel of working with a paintbrush and incorporates full Multi-Touch support, allowing you to paint and draw with ease.

Since Nomad Brush's initial release, the company has further refined the design, offering short-tip versions for detail work, a miniature stylus for iPhone painting, and a dual-tip brush for painting and navigating.

—**SERENITY CALDWELL**

\$20 TO \$39;
NOMAD BRUSH,
NOMADBRUSH
COM



PRINTOPIA 2

➔ iOS 4.2's AirPrint technology promised to let you print from your iOS device to any printer shared by your Mac, but it ended up working with few printers. Ecamm's Printopia delivers on AirPrint's original promise by sharing any or all of your Mac's printers with iOS devices. And

Printopia's other features are just as useful. Using the iOS print dialog box, you can save a document to a folder on your Mac (to save online receipts, for instance), save a document to your Mac's Dropbox folder (making it available to other Dropbox-configured devices), send a document to a Mac application (say, to open an iOS screenshot in your favorite image editor), or process a document using Mac OS X's PDF workflow options. Printopia even lets you configure your favorite printer settings—paper size, print quality, and more—for AirPrint printing. It has become a must-have utility around the *Macworld* office.—**DAN FRANKS**

\$20; ECAMM NETWORK, ECAMM.COM

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Playlist

Jawbone Jambox

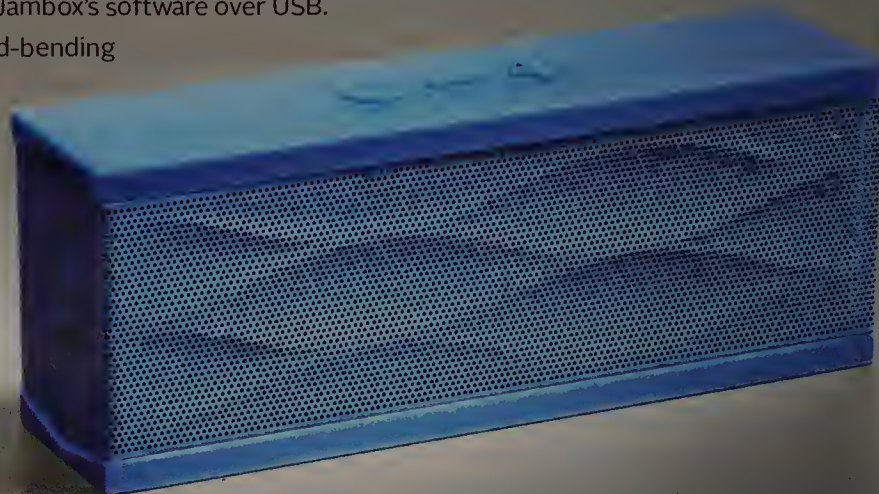
➔ The Jambox, by Jawbone, is small, colorful, and sturdy—the rubber casing lets you toss the device in your bag without a worry. As good as this portable Bluetooth speaker looks, it sounds even better. Whether you pair the Jambox with your iPhone, iPad, or Mac, you'll get room-filling sound that's all the more impressive when you consider that the device is the size of a chalkboard eraser and weighs 12 ounces. And Jawbone lets you update the Jambox's software over USB.

LiveAudio, a free update for the speaker, creates mind-bending pseudo-3D music effects. Another recent update, Sound Clarity, gets even bigger sound from Jambox than it already offered, and that's saying something.

Even better, the Jambox relies on a long-lasting built-in rechargeable battery. The company promises eight hours of battery life; I consistently get more.

The Jambox offers a wonderful way to listen to music: It's easy to carry with you and it sounds terrific.—LEX FRIEDMAN

\$200; JAWBONE, JAWBONE.COM



AirPlay

➔ iTunes, Apple's technology for streaming iTunes audio to an AirPort Express, debuted in 2004. But it wasn't until Apple overhauled iTunes last fall, renaming it AirPlay, that the technology started really catching on. That's because AirPlay now lets you stream from iTunes or any compatible iOS app to any AirPlay-enabled device, which includes a growing number of speaker systems and AV receivers.

And if you've got an Apple TV 2, you can now stream videos, games, and photos to your TV, as well as mirror the display of your iPad 2 or iPhone 4S on it. It's been a long time coming, but it still feels futuristic. We're counting the days until our Macs get the same capabilities.—DAN FRAKES

FREE; APPLE, APPLE.COM



PLAY:3

➔ It's rare to find companies that make products offering elegant design, ease of operation, and integrated software and hardware, all working in harmony. Apple is one such company. Sonos—maker of multiroom music systems—is another. This year's best example is the Play:3, a reasonably priced powered stereo speaker system that allows you to easily stream your iTunes library, as well as Internet-based music, throughout your home.

Not only does the Play:3 offer solid sound, but you can control it from any iOS device via the free Controller app. The Play:3 also integrates with other Sonos network players.

We've been hot on Sonos products for a long time, due to this kind of design and integration. This year we sing the Sonos's praises with an Eddy award for this impressive system.

—CHRISTOPHER BREEN

\$299; SONOS, SONOS.COM



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MACWORLD'S 2011

APP GEMS

AWARDS

WE RECOGNIZE 32 FAVORITES THAT REPRESENT
THE BEST OF WHAT THE iOS APP STORE HAS TO OFFER



In the three and a half years since Apple opened the App Store's virtual doors, app mania shows no signs of abating. The concept of an Apple-managed software store has become so widely embraced that the company even created a Mac version of the App Store in January 2011. But the iOS store isn't ready to cede the spotlight just yet. A quick glance at the 32 winners of this year's App Gems honors reveals that developers continue to roll out stellar software that pushes the limits of just what your iPhone, iPod touch, and iPad can do. And with half a million apps to choose from in the App Store, we expect plenty of good things still to come on the iOS front.

ILLUSTRATION BY SOL LINERO



Top Productivity Apps

BY SERENITY CALDWELL, DAN FRAKES, DAN MOREN, AND LEAH YAMSHON

Our favorite productivity apps each have different ways of helping you get more out of your iOS device. A pair of the winners in this category improve upon the things your iOS device can do already, delivering in ways that Apple's built-in apps don't. And the other two add new and exciting features to your iPad and iPhone, making you more productive in the process.

iOS 5 introduced a built-in Reminders app to manage tasks, but we prefer **Due** when it comes to quickly keeping track of the many to-dos that come up in a given week. Creating reminders in Due is simple and speedy, but the app's best feature is its one-tap customization: You can reschedule reminders, add repeats, recycle old tasks, and email or message others, all without complications or extra hassle. Combine that with a beautiful interface, the ability to sync across devices, and persistent push notifications, and it's clear why we need no reminder to tout our affection for Due.



Day after Day Appointments are easy to view and manage in Agenda Calendar.



Screen Sharing

With its clean interface, Screens makes it easy to access a Mac or PC from your iPhone or iPad.

iOS devices also include a built-in Calendar app, but, frankly, it leaves a lot to be desired. For a nice upgrade, turn to **Agenda Calendar**, which uses the same cloud-synced calendar data but makes it easier to view and manage. While Agenda works on both the iPad and the iPhone, it's the latter version that shines: The app provides five views—multimonth, month, week (a scrollable list), day, and event—and you simply swipe right or left to see more or less detail, respectively. In any view, swipe down or up to look back or forward in your schedule, or tap the date icon to quickly enter a date to view or to search for an event. You can share event details via email, and if you've installed the Due app we just mentioned, you can add custom alerts and reminders.

Your iOS device doesn't come with a way to view Mac or PC screens over a network, but plenty of third-party apps can do so. Few take on the task with as much polish as **Screens**. The app's interface is attractive and simple, but beneath that veneer is surprising power: There's support for multiple authentication methods, SSH tunneling, and Multi-Touch gestures. And Screens is no slouch when it comes to performance and stability. While it might be pricey compared with most of

its competitors, Screens is worth the money to anybody who uses screen sharing on a regular basis.

Scanner Pro has been available on the App Store for awhile. Yet the app—which turns your iPhone or camera-equipped iPod touch into a portable document scanner—caught our eye this year with updates that added batch document scanning and improved support for the Evernote and Dropbox online services. The image quality you get from Scanner Pro rivals what you'd expect from a dedicated scanner.

HONORABLE MENTIONS AirPort Utility, Dragon Go, OmniOutliner, Prompt, RC Trackpad HD

AGENDA CALENDAR
\$1; App Savvy; macworld.com/5541755/

DUE
\$5; Phocus; macworld.com/5541755/

SCANNER PRO
\$7; Readdle; macworld.com/5541755/

SCREENS
\$20; Edovia; macworld.com/5541755/

NEO HYBRID][S

Snow Series for iPhone 4/4S





Top Communications Apps

BY JEFFERY BATTERSBY AND DAN FRAKES

Communication starts long before you open your mouth. First you have to come up with an idea and put it into words, and then you present it to the world at large. Our top communication apps from the past year cover this process from start to finish.

There are a lot of good writing apps capable of handling basic writing, highlighted by previous App Gems winner Elements. But if your writing includes any sort of code, **Textastic Code Editor** (pictured top right) stands out by making editing on an iPad much less painful. For starters, it offers more than 20 color themes, each of which provides syntax highlighting and document navigation for a slew of file and code types, including Markdown, HTML, XML, CSS, Perl, JavaScript, and C variants. The app's on-screen keyboard offers an additional scrolling row for frequently used coding characters, and a brilliant on-screen controller can be summoned at will to precisely move the cursor and quickly select ranges of text. A powerful, interactive search feature makes it easy to find and replace text, and Markdown users will love the features for previewing documents and grabbing HTML. Textastic is also well connected, letting you open files from, and save them to, Dropbox, FTP, SFTP, and WebDAV servers. A built-in WebDAV server lets

you exchange files wirelessly with your computer, and the app offers a considerable number of options for sharing files with other people and apps. Even after using Textastic for several months, we're still discovering neat features.

But what about generating ideas? We recommend you turn to the sophisticated, easy-to-use **iThoughtsHD** (pictured top left). This thoughtfully designed mind-mapping app is among the best we've ever tested—and not just on the iPad, but on the Mac as well. iThoughtsHD offers a number of shortcuts to help you make quick work of brainstorming sessions; once that initial work is complete, the app provides many options for formatting, manipulating, and editing your map. But the real beauty of iThoughtsHD is that you never feel that you're sacrificing quality by creating your mind map on a tablet rather than a computer.

Of course, ideas only take you so far if you can't share them with anyone. Enter Twitter and its abundance of clients on the iOS platform. With so many fine apps to choose from, why does the iPhone-only **Tweetbot** (pictured top center) stand out from the tweeting crowd? Because it offers a unique user experience and lots of great features. Start with a customizable interface that's attractive and fun to use—for example, if you want to view an entire conversation, just swipe to the right

on any message in that conversation. In addition to what other Twitter clients offer, Tweetbot includes message drafts; enhanced multiple-account support; muting of people, hashtags, and clients; notifications; username and tag auto-completion; detailed info about messages and people; Favstar integration; and more. You can choose your favorite services for shortening URLs, uploading photos and videos, and reading items later; Tweetbot can even translate foreign-language tweets for you. It was also one of the first clients to incorporate the Tweet Marker service, and it's still the only one that makes Twitter lists a front-and-center timeline feature. Tweetbot gets all the details right.

HONORABLE MENTIONS Blogsy, Daedalus Touch, FDX Reader, LetterMpress, Notability



iTHOUGHTSHD
\$10; CMS; macworld.com/717

TEXTASTIC CODE EDITOR
\$10; Alexander Blach;
macworld.com/717

TWEETBOT
\$3; Tapbots; macworld.com/717

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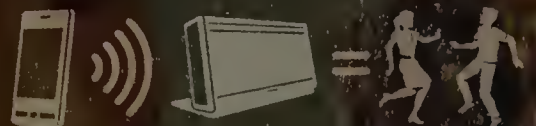
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Top Photo and Video Apps

BY SERENITY CALDWELL, ALEXANDRA CHANG, AND JACKIE DOVE

One of the most widely used cameras in the world isn't a DSLR or even a point-and-shoot—it's the one that comes built into your iOS device. Certainly, the main reason for that is convenience, but iOS photographers also have a number of great tools at their disposal, as evidenced by our favorite photo and video apps from the past year.

When it comes to taking quality iPhone photos, there's no bigger name than **Camera+**—and for good reason. Version 2.0 of the all-in-one tool made an already impressive app even better, with a significant speed boost, more

photo effects, and a new design. What makes Camera+ so addictive are its simple and effective editing options. Users can immediately enhance their images by choosing photo scenes, such as Food or Portrait; cropping; adding borders; and trying out fun retro effects.

For photo editing, we turn to the powerful, intuitive **Snapseed**, which tackles everything from adding vintage filters and frames to adjusting an image's brightness and contrast. What sets Snapseed apart from other iOS image editors is its gesture-based interface: Tap and slide your finger anywhere on your iPhone or iPad screen

to enhance photographs. You can switch between different editing options, adjust a specific element of an image, and add a Control Point (Nik Software's unique tool to make selective edits)—all without ever having to tap on little sliders again.

If you're looking to create a black-and-white shot, the iPhone or iPad version of **Dramatic Black & White** can handle the artistic challenge of creating a compelling monochrome image. The app reproduces the effect of the traditional darkroom with three sets of dazzling monochrome presets. The app is extremely easy to use: Adjust the ellipse spotlight tool with your finger and use



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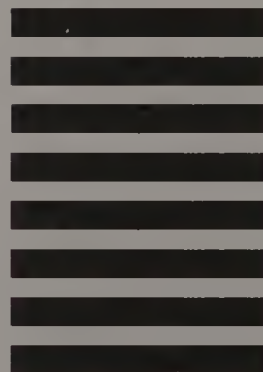
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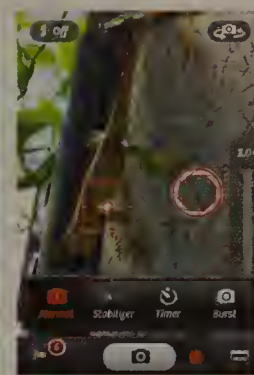
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Picture Perfect Left to right: Snapseed, Dramatic Black & White, CollabraCam, and Camera+.

the slider controls to fine-tune the effect. It also supports high-resolution images, offers a preview mode, and lets you create custom presets.

As impressive as the still images produced by Apple's iOS devices are, the iPhone 4 and 4S have also proven to be excellent tools for independent filmmakers looking to shoot on a miniature budget. **CollabraCam** takes that idea one step further, providing directors with a fully wireless multicamera production

system. The app requires no dongles or expensive receivers to work—just a couple of iOS devices running CollabraCam on the same wireless network. Set up your iPad as the director, and see up to four live video streams from connected devices, give visual directions for moving the camera, and switch devices as you record to edit on the fly.

HONORABLE MENTIONS Comic Life, Derrmandar Panorama, Luminance, PhotoRocket, Simply B&W



CAMERA+

\$1; Tap Tap Tap; macworld.com/7576

COLLABRACAM

\$6; Apptopus; macworld.com/7575

DRAMATIC BLACK & WHITE

\$1; JixiPix; macworld.com/7577

SNAPSEED

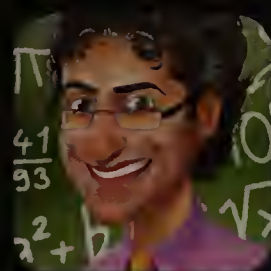
\$5; Nik; macworld.com/7578

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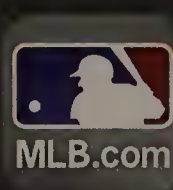
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HOUGHTON MIFFLIN HARCOURT



APP HALL OF FAME

Each year as we hand out App Gems awards to the top iOS apps, a few familiar faces always seem to be among the contenders. They embody the best of what the iOS platform has to offer, and continually introduce enhancements that make them the class acts of the App Store. Our App Hall of Fame recognizes these apps for continually raising the bar.

1Password Pro (macworld.com/5943) works as well on the iPad and iPhone as it does on the Mac—which is to say *superbly*. You can keep your passwords and other

sensitive information (credit card numbers, PINs, software key codes, and more) under 1Password Pro's protection. Remember the password for 1Password Pro, and you can forget all others—and rest easy knowing that you've protected your most crucial data even if your iPad or iPhone should go missing.—JEFF MERRON

Flipboard (macworld.com/6465) is not a browser, an RSS reader, or a deferred-reading service like Instapaper—it's a "Best of" compilation of all three. Initially, the app merely pulled links

from Twitter and Facebook feeds; now, it's integrated with an impressive array of partners, from the *New Yorker* to *Rolling Stone*. It has also become the poster child for iPad app excellence. Laughably simple to navigate, Flipboard makes browsing a surfeit of Internet sources a pleasure.—LEX FRIEDMAN

Instagram may not have been the first app to offer clever, low-fidelity filters for your photographs, and it obviously wasn't the first social network. But by brilliantly combining the fun of



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Grand Slam

MLB.com At Bat's annual updates have added stellar graphics and live look-ins at games in progress, making the app a perpetual favorite for iOS device-toting sports fans.

to discover more great content by looking at what your friends are reading and enjoying. The Web will always offer more articles to read, and Instapaper will always offer the best way to read them.—LEX FRIEDMAN

MLB.com At Bat (macworld.com/7550), updated with a new version annually, started out as a good app that keeps getting better. Major League Baseball was the first sporting league to embrace the iPhone, offering an app with scores, video highlights, live audio of every game, and (for subscribers) live out-of-market video. The pitch-by-pitch Gameday interface uses video-game graphics to depict parks and players. Live look-ins provide quick-hit video of key portions of a game. If you're a baseball fan with an iOS device, this app should be on the first page of your home screen from April through October.

—JASON SNELL

photo manipulation with the delight of sharing the finished products, Instagram (macworld.com/6727) created an enduring photography community. The steady improvements are welcome, but Instagram's best feature remains its core simplicity.—LEX FRIEDMAN

Instapaper (macworld.com/6018), the app for distraction-free reading of long-form online content, has a spot on my iPad's Dock devoted to it. Over time, the app hasn't merely scored the usual refinements you expect from mature apps, but now offers clever ways

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Top Music Apps

BY CHRISTOPHER BREEN AND SERENITY CALDWELL

Our three favorite music apps have something in common besides offering great ways to make music on the go. This trio appeals to *all* iOS device owners, from experienced musicians to someone who's hardly ever picked up an instrument.

Learning how to play a song without the benefit of sheet music can be hard, but the flawless execution and gorgeous interface of **Capo** make the task go more



Take Note Animoog's X/Y Pad allows you to change the character of notes as you play.

smoothly. The app lets you play any DRM-free song stored on your iPhone or iPad. From there, you can slow it down, adjust the pitch, or add markers and loop points to help you master the particulars of playing back a song.

The App Store features a lot of terrific virtual synthesizers. Trouble is, most require that you know how to operate a real synthesizer. **Animoog** is an iPad-only polyphonic synthesizer that both new and experienced players can enjoy. Unique to Animoog is an interface designed specifically for touch controls rather than one that mimics a real-world instrument. Additionally, the app's X/Y Pad and keys let you modify the character of notes as you play by sliding a finger or swiping across the pad. Animoog features great, thick sounds and controls that are easily accessible as you play.

GarageBand is also designed with both musicians and the tin-eared in mind (as we note in our review in *iOS Central*, page

22). The finest music-making app you can buy for \$5 or less features a solid collection of virtual instruments and audio loops, eight-track recording, modeled amplifiers for guitar players, and autoplay modes. GarageBand's iOS incarnation is a must-have app.

HONORABLE MENTIONS GhostGuitar, Hound, Tenuto

ANIMOOG
\$1; Moog Music;
macworld.com/7366

CAPO
\$20; SuperMegaUltraGroovy;
macworld.com/6823

GARAGEBAND
\$5; Apple; macworld.com/7054

Top Reading Apps

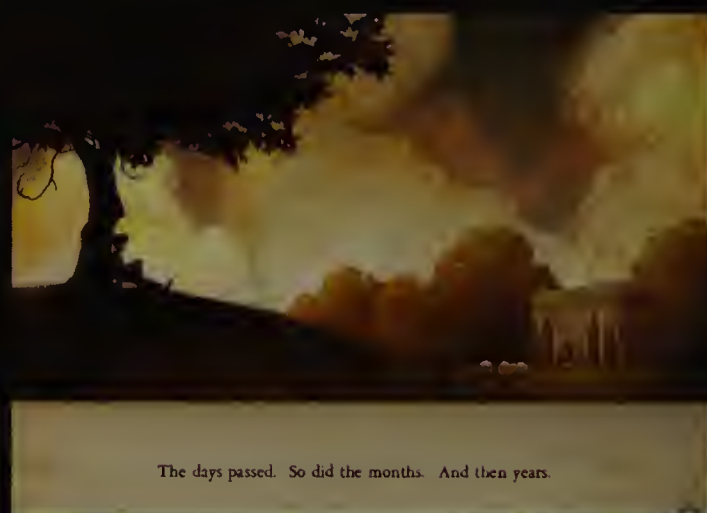
BY LEX FRIEDMAN, PHILIP MICHAELS, AND JASON SNELL

Book lovers have found a welcome companion in iOS devices, particularly with the iPad and its reader-friendly screen. Our favorite reading apps from the past year include a tool that ushers comic books into the digital age, and two children's books that make the most of the iPad's interface.

Comics by Comixology has been the definitive app for reading comic books on iOS for some time now. With version 3.0, the app got even better. It has a new, smooth interface and does a much better job of handling the huge volume of digital comics now being released. The days of

the paper comic-book issue may be numbered. But reading comics on the iPad has a bright future ahead, thanks to Comics.

As for books themselves, *The Going to Bed Book* is a great children's book; author Sandra Boynton could probably have released a glorified PDF of the book and still have had a pretty decent iOS app. Instead, **The Going to Bed Book** offers a pseudo-3D view of the



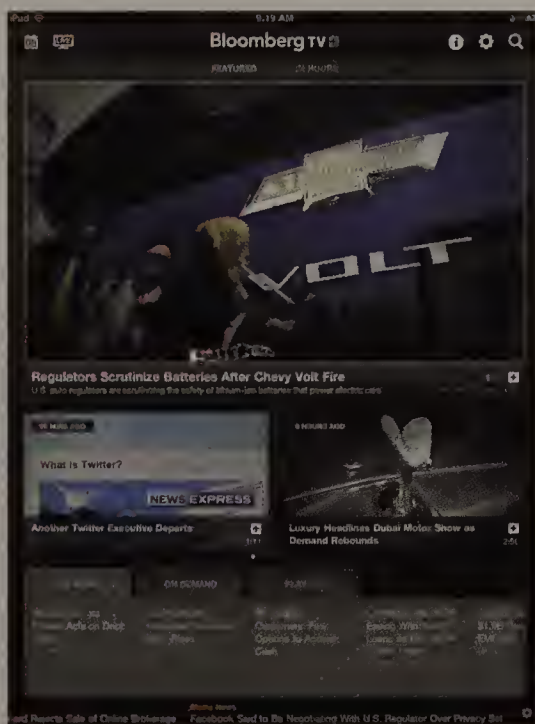
Bringing Words to Life Tapping the screen in this scene from *Morris Lessmore* causes the seasons to change.

Top News Apps

BY ALEXANDRA CHANG AND PHILIP MICHAELS

Few App Store categories saw as much upheaval in the past year as news delivery apps did. Efforts by developers to create more-personalized apps or bring streaming video straight to your iOS device have led to the creation of a number of interesting news apps. Two in particular caught our eye.

Many apps followed the lead of Hall of Fame app Flipboard to deliver news that reflects specific interests, whether it be from sources you follow or links your friends post on social networks. Our favorite in 2011 was **Zite**, which surveys your Facebook and Twitter feeds to pull together stories on topics the app thinks will interest you. Zite stands out from the news aggregator crowd, thanks to its elegant interface. It also learns your preferences from the stories you consume and rate. Plenty of apps promise a similar experience, but Zite delivers with a balance of personalized content and top-notch design.





Broadcast News Get a live stream of programming from Bloomberg TV+.

On the video front, **Bloomberg TV+** has emerged as a leader by creating a terrific app that could change the way we

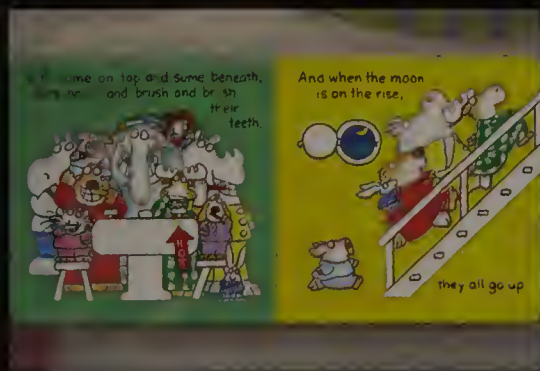
interact with broadcast news. The business and finance channel's app lets you watch a 24-hour live stream of its television programming, formatted just right for the iPad. This isn't just TV on your tablet, though—the app enhances its video offerings with extra content on people, companies, and topics mentioned in its stories.

HONORABLE MENTIONS CNN App for iPad, Instacast, Newstream, PBS for iPad, Pulse News for iPad

BLOOMBERG TV+
free; Bloomberg Finance;
macworld.com/7567

ZITE
free; Zite; macworld.com/7387






Bed Time *The Going to Bed Book* sports a pseudo-3D view.

original board book—and everything is interactive. Your kids will delight in making the adorably drawn animals jump, the steamy sink fog up the screen, and the stars sparkle in the night sky. Since the app can read to you or let you read the text

yourself, it works for a wide age range.

Likewise, the makers of **The Fantastic Flying Books of Morris Lessmore** could have simply done an ebook version of the animated short—the visuals, music, and story line are certainly evocative enough to make a perfectly fine children's story. But the iPad app does so much more: Each scene uses interactivity to draw the reader into the story. Tap the screen to make the seasons change in one scene, or piece together bits of a torn-up page in another. It's all perfectly blended into a story that's a love letter to the power of books. And the app itself is a stellar example of what books can be in the age of the iPad.

HONORABLE MENTION Al Yankovic: When I Grow Up

COMICS
free; Comixology;
macworld.com/5584

THE FANTASTIC FLYING BOOKS OF MORRIS LESSMORE
\$5; Moonbot Studios;
macworld.com/7568

THE GOING TO BED BOOK
\$4; Loud Crow Interactive;
macworld.com/7385

Top iOS Games

BY PHILIP MICHAELS AND DAN MOREN

Variety isn't just the spice of life; it's also one of the reasons the iOS platform has emerged as a mobile gaming force. Our list of award-winning games for 2011 reflects that versatility, with each of our winning apps bringing something unique to the table.

Tiny Wings illustrates just how much fun you can have with a seemingly simple game. There's nothing complicated about the gameplay—tap the screen and release to help a squat, bug-eyed bird take flight—but *Tiny Wings* throws up enough mini-challenges to keep you coming back for more. When you do return to the game to pull off feats like collecting a certain number of coins or reaching a far-off island, you'll notice that the landscape has changed; *Tiny Wings* uses procedurally generated graphics, so the look and patterns of the multicolored islands change on the fly. Tiny though the game may be, it has a lot of staying power.

Zombie Gunship also keeps things simple, opting for grainy black-and-white graphics. In *Zombie Gunship*, though, the low-tech approach works, creating a feeling of menace and isolation as you fly



The Great Race

Real Racing 2 HD moves the great racing action of the original game to your TV screen.

above an apocalyptic landscape, picking off zombies and rescuing survivors. Every detail, from the crackle of your plane's radio to the way the screen vibrates when you fire off a howitzer, makes *Zombie Gunship* feel like a spooky, low-budget movie you'd stumble across on cable TV late at night. The App Store is crawling with zombie-themed games—but this one is easily our favorite.

Other games stood out thanks to their ability to take advantage of multiplayer

support. **Super Stickman Golf** is certainly a fun, fast-paced golf game: Pick the angle and power of your shot, and let 'er rip. But the real challenge begins when you take on your friends in a frenetic free-for-all via Game Center or locally over Wi-Fi and Bluetooth—the goal here, unlike in real golf, is to be the first to sink your ball, no matter how many shots it takes. It's the most fun you can have on a golf course that doesn't boast any tiny windmills.

Top Education Apps

BY LEX FRIEDMAN AND PHILIP MICHAELS

The iPad has been making inroads in the classroom ever since its 2010 debut. If Apple's tablet is going to continue on this course in education, it will be with apps like our two favorite educational offerings leading the way.

Toontastic is a creative learning tool aimed at the younger set (ages 4 through 7 for some of the app's categories, and 8 through 10 for others). It's obvious when you launch

Toontastic that kids will have fun with it for at least a moment. What's not so obvious is how they can lose themselves completely in the app and their imaginations—and they'll be eager to share their creations with you. The app playfully walks young animators through the process of creating full cartoon stories. They pick the setting, the characters, and the soundtrack, and they can record the characters' dialogue, too. All told, *Toontastic* is a



Storyboard *Toontastic* helps young kids create cartoon stories on the iPad.

brilliantly executed app that keeps kids entertained, and fully engaged to boot.

Older students—or anyone with an interest in history, really—can enjoy an immersive experience of their own



Tea Time Kids can gather around Toca Tea Party for an iPad-based soiree.

Real Racing 2 HD takes its multiplayer functionality beyond your iOS device. The iPad game—as well its iPhone counterpart, Real Racing 2—exploits the AirPlay mirroring feature introduced in iOS 5. Now, a multiplayer race hosted on an iPad 2 or iPhone 4S can beam its way onto your HDTV via an Apple TV set-top box, so that you and your friends can watch all the action on a larger screen.

Toca Boca's apps for kids aren't nearly as advanced, but they're no less impressive for their ability to incorporate iOS

devices into the way that kids play. Perhaps the best example of what Toca Boca does is the developer's **Toca Tea Party** offering, which transforms the iPad into the tabletop for a tea party that friends, stuffed animals, and even parents can gather around. With a tap on the screen, guests can devour the assorted pastries or sip the beverages on offer; there's even a virtual tissue box to help clean up spills caused by errant taps. The controls are simple enough for even the smallest fingers to master, and the little touches—a radio that plays a choice of music, and different tablecloth and plate patterns—are sure to delight. More important, though, Toca Boca's apps tap into the best feature of all—your kids' imaginations.

Our final winner falls on the opposite end of the iOS gaming spectrum. With its retro-inspired graphics and evocative score, **Superbrothers: Sword & Sworcery EP** is one part epic adventure game, one part nostalgia trip, and one part concept album. You take the role of the unnamed Scythian, in search of the legendary Megatome; along the way, you're forced to do combat with the unspeakable evil of the Gogolithic Mass. But the game's more than just your average fantasy epic; a wry, tongue-in-cheek sense of humor and clever puzzles amuse and intrigue, respectively, and the

music and visuals keep you glued to the screen from start to finish.

HONORABLE MENTIONS BackBreaker 2: Vengeance HD, Jetpack Joyride, Mighty Fin, Perfect Cell, Scribblenauts Remix



REAL RACING 2 HD

\$7; Firemint; macworld.com/7525

SUPERBROTHERS: SWORD & SWORCERY EP

\$5; Cappybara Games; macworld.com/7569

SUPER STICKMAN GOLF

\$1; Noodlecake Studios; macworld.com/7213

TINY WINGS

\$1; Andreas Illiger; macworld.com/7327

TOCA TEA PARTY

\$3; Toca Boca; macworld.com/7570

ZOMBIE GUNSHIP

\$1; Limbic Software; macworld.com/7571



When in Rome Virtual History Roma's Bubble Viewer provides a 360-degree view of Castel Sant'Angelo.

with **Virtual History Roma**. A kind of e-textbook, Virtual History offers a lot of fascinating data on emperors,

battles, daily life, and other facets of Roman civilization. But instead of simply relying on text, the app incorporates images, graphics, and other visual techniques to make that information spring to life. Hold your iPad out and spin around to get a 360-degree view of Imperial Rome. A rotating 3D cutaway gives you an up-close look at the Colosseum. Overlays

superimpose the architecture of ancient times on the streets of today. It's an inventive way of conveying information

that illustrates the new ways the iPad can help us learn.

HONORABLE MENTIONS BrainPop Featured Movie, The Civil War Today, Fotopedia National Parks, Solar Walk



TOONTASTIC

free; Launchpad Toys; macworld.com/7572

VIRTUAL HISTORY ROMA

\$10; Arnoldo Mondadori Editore; macworld.com/7573

WORKING MAC

Tips, Tricks, and Tools to Make You and Your Mac More Productive

Understanding Lion's Auto Save

Mac OS X includes a new way of saving files that just might save your bacon

BY DAVID SPARKS

One thing most of us—from novices to seasoned vets—have in common is a sad story: the one about the time we were working on a crucial file but forgot to save it and somehow lost all our changes. Eventually, it happens to everyone. That's what makes Lion's Auto Save feature such a swell addition to Mac OS X. If you're using an app that's been tweaked to work with Auto Save, no power outage or momentary distraction will ever rob you of hours of hard work again.

That said, the new feature does take some getting used to. For many of us, pressing ⌘-S once in a while as we work has become second nature. And many of us have developed workflows built around the Save As command—to create new files based on old ones, to preserve specific versions of files (saving Proposal v1.0 as Proposal v1.1), or to quickly copy files to new locations.

Fortunately, you can use Lion's Auto Save and its associated commands to do all of that. You just have to get used to the new nomenclature.

Good-bye, Save and Save As

To take advantage of Auto Save, you obviously need to use an app that

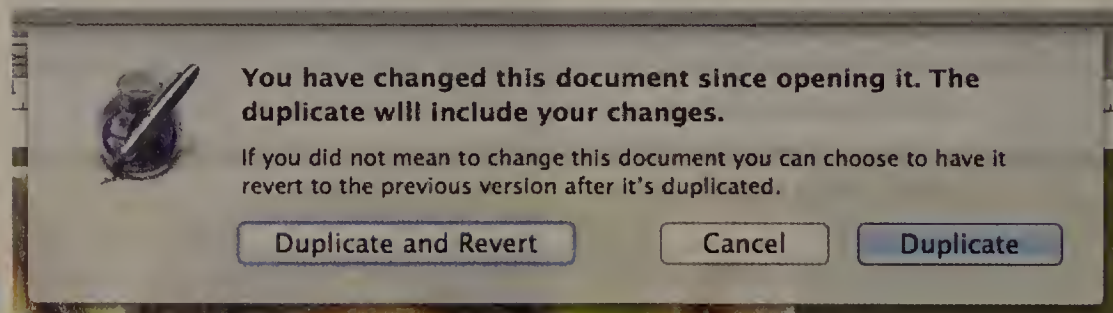


supports it. Of course, Apple's own programs—including the iWork suite, iPhoto, iMovie, GarageBand, and TextEdit—do. A number of third-party apps also support Auto Save; on that list are Flying Meat's \$50 Acorn (🍎🍎🍎; macworld.com/a/159847), Literature & Latte's \$45 Scrivener (🍎🍎🍎🍎; macworld.com/a/155903) and The Omni Group's \$200 OmniGraffle Pro (🍎🍎🍎🍎; macworld.com/a/136253). You can also check out the Mac App

Store's Enhanced for OS X Lion page (macworld.com/7544) for a list of others. Microsoft says it will add Auto Save in a forthcoming update of Microsoft Office 2011. Still, many other popular Mac apps don't yet support it.

Assuming that you're working in an Auto Save-compatible app, you'll notice that the Save command is still around, but only when you're working on a new, unsaved document. As soon as you save the file and give it a name, the Save command disappears. At that point, Auto Save kicks in. It saves a new version of your file whenever you pause or every 5 minutes.

The new Save A Version command replaces Save in the File menu. If you want to take a snapshot of your document at a particular time—right before you start really hacking it down to size, for instance—you can select File ▶ Save A Version.



Originals and Duplicates If you try to duplicate a file that's been changed, Lion asks what you want to do with the original.

The old, familiar ⌘-S shortcut also works too, so if you still feel the Pavlovian impulse to save every few minutes, go nuts. You're just creating more versions of your document.

To see the different versions, hover your cursor over the document name in the document's title bar. A disclosure triangle appears. Click on this triangle to see the Version menu (see "Find the Right Version"). From here you can opt to Browse All Versions or Revert To Last Saved Version, among other choices.

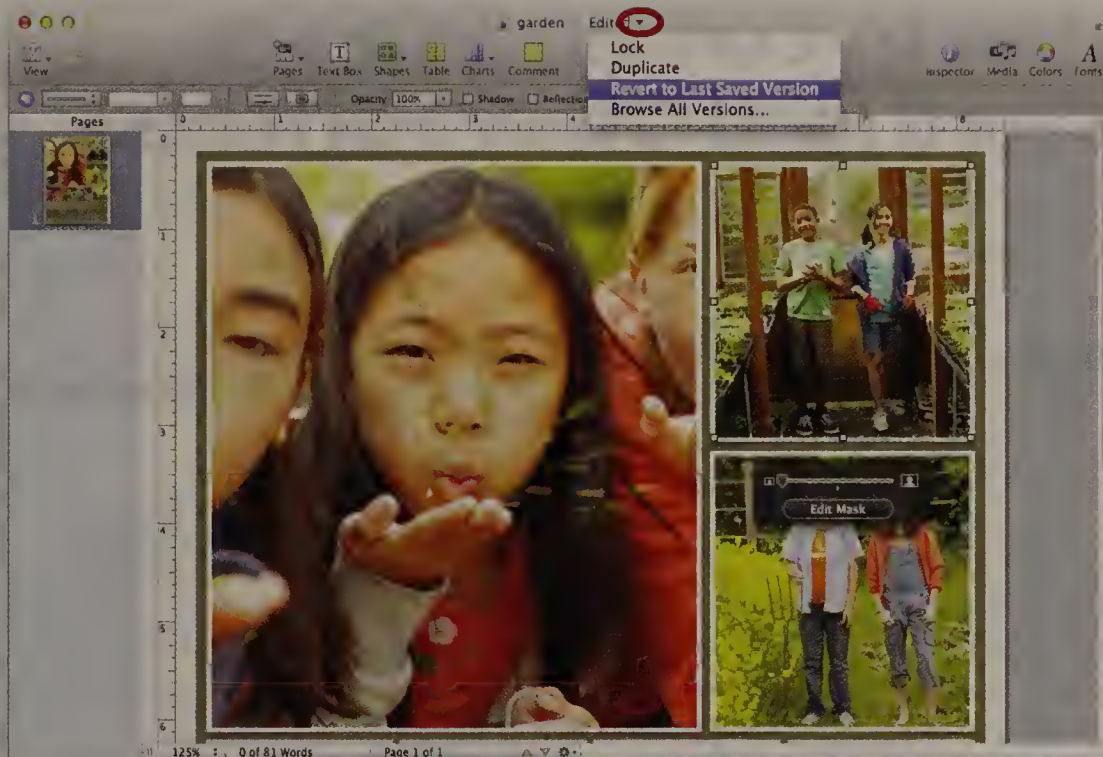
Hello, Duplicate

If you relied heavily on Save As in the past, Lion's Duplicate command is your new friend. One problem with the old Save As workflow was that it was all too easy to wreck your original by forgetting to choose Save As before you started making changes. The new Duplicate command helps you avoid the carnage.

Selecting Duplicate creates a fresh copy of the original file, leaving that original in a separate window where you can never overwrite it. A duplicate is a new document that you can save wherever you want. Once you've saved the duplicate, Save A Version once again replaces Save.

What if you decide to duplicate a document when you've been editing it for a while? At that point, Lion's Auto Save has already saved your changes to the original file.

Fortunately, Lion has a solution for this problem as well: When you click



Find the Right Version Change your mind about an edit? In most Apple programs, and in some other apps updated for Lion, that's no longer a problem. You can find or revert to older versions of your file by accessing the new Version menu.

Duplicate in a document that you've changed, Lion asks whether you would like to save the original document in its altered state or let it revert to the version you first opened (see "Originals and Duplicates"). If you choose to let it revert, Lion makes a duplicate copy with all of your changes saved in it, and the original goes back to exactly the way it was.

Adapting yourself to use Duplicate when you've been using Save isn't really that hard. Whether you want to create a new document based on an old one, use an incremented file name for versioning purposes, or save a copy of a file in

a new location, you can use Duplicate to do it all.

Adjusting to Auto Save

One tricky bit about the transition to Auto Save is that not all apps have it. As you get used to your apps saving files for you, it will become easier and easier to forget to save in the apps that don't. You'll need to pay extra attention to avoid any big "oops" moments.

David Sparks is the editor of MacSparky.com, cohost of the *Mac Power Users* podcast, and author of *Mac at Work* (Wiley, 2011) and *iPad at Work* (Wiley, 2011).

Hadaki Cushioned Multitasker Laptop Pod

The \$90 Cushioned Multitasker Laptop Pod (www.hadakishop.com), from New Orleans-based designer Hadaki, is as good at protecting your laptop as it is at inducing flashbacks of your summer in Amsterdam. The bag's supershiny plastic exterior feels tough enough to handle heavy use without flaking or tearing. The interior is lined with a slick nylon that's sure to keep your laptop scratch-free and clean. And the adjustable, messenger-style shoulder strap connects to the bag with tough seams—it doesn't look like it would break without a fight. The bag accommodates up to a 15.4-inch laptop in a separate, padded sleeve. The Pod is available in Hannah's Paisley (shown), Tic Tac Toe, Cobalt Paisley, Cobalt Stripes, and Floral Swirl. There's a pattern for everyone—or at least, everyone with exceptionally bold taste in laptop bags.—LAUREN CRABBE



How to Convert PDFs to Word (and Other Formats)

Two ways to get text out of a PDF and into your word processor

BY KIRK MCELHEARN

The PDF file format is a great tool for sharing documents while retaining their formatting and ensuring that the documents don't get changed (contracts, for instance). But sometimes you need to use the text in a PDF. While you can copy and paste text from a PDF, chances are it will end up seriously munged. You'll see odd line breaks or no breaks at all, and styles will be lost. There are ways, however, to convert a PDF to formatted text.

A Workflow That Extracts Text

The first method is the cheapest and uses a tool that is part of Mac OS X: Automator. Use Automator to create a workflow that extracts text from PDFs and saves it as a text or RTF document.

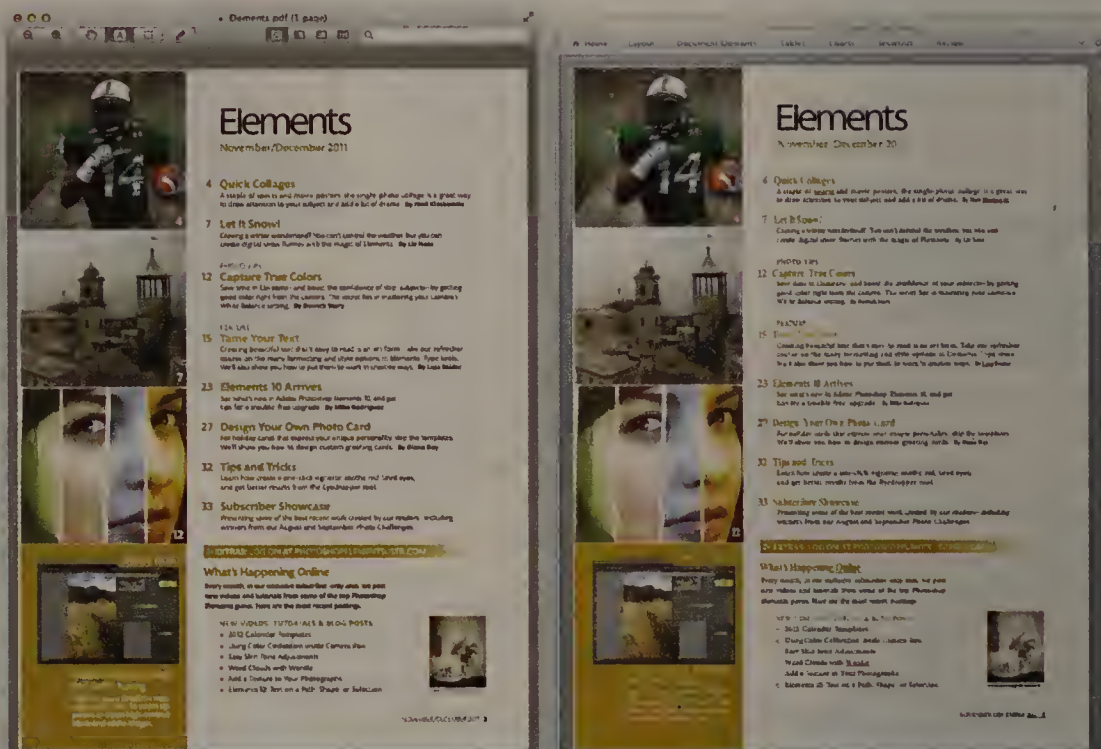
Open Automator, which is in your Applications folder. On the first screen that appears, choose the Workflow document type. Click on Files & Folders in the leftmost column, and then drag Ask For Finder Items from the second column to the larger section at the right of the Automator window. Next, click on PDFs in the leftmost column, and drag Extract PDF Text below the first item.

The second Automator action allows you to choose whether you want to save

While you can copy and paste text from a PDF, chances are it will end up seriously munged—with odd line breaks or no breaks at all.

the text extracted from your PDFs as plain text or in Rich Text Format. In most cases, you want to choose the second option, as this retains formatting such as bold and italic text. Microsoft Word, Apple's TextEdit and Pages, and most other text editors can handle RTF.

Press ⌘-S. Give your workflow a name, such as 'PDF to RTF,' and then



A Dedicated Program When I converted a PDF using Solid PDF to Word, the resulting Word file (right) ended up looking a lot like the original PDF (left).

choose Application from the File Format pop-up menu. Finally, click on Save. Launch your new application, select a PDF file in the screen that appears, and let Automator do its work. Open the file that appears in Word to see the text of your PDF file, complete with text formatting but no layout elements (no columns and so on). The result can look

to Word (www.mac-pdf-converter.com). It can convert a PDF into a Word document that retains most formatting.

I used the program to convert several complex PDFs: an issue of *Macworld*, one of the Take Control series of books, and an issue of *Adobe Photoshop Elements Techniques*. While Solid PDF to Word takes some time to perform the task, the resulting Word files do resemble the originals.

These conversions aren't always perfect—they use similar fonts, retain graphics, and keep the approximate layout, but there can be glitches. In my tests, Word had difficulty displaying the *Macworld* file, with text blinking as the program struggled to paginate and display complex formatting. But both the Take Control book and the *Adobe Photoshop Elements Techniques* magazine displayed almost perfectly. The results are certainly good enough to let you use the content with considerably less hassle.

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The Apple Switchboard

Mac- and iPhone-based phone systems offer small businesses new, lower-cost options

BY JOEL MATHIS

When Brent Albert went searching for a new phone system to serve his Oklahoma motorcycle dealership, he didn't end up with the cheapest or the most technically dazzling. He went with a FacetPhone system that uses the Mac mini as a hub for routing calls, storing voicemails, and keeping his salespeople connected to their customers. Why? Because Albert, the owner of Fat Albert's Motorsports, loves Apple products.

Albert isn't alone. Companies that offer private branch exchange (PBX) systems—the multiextension phone systems for routing calls within businesses and other institutions—have identified Apple products like the Mac and the iPhone as the next frontier in the market. The PBX firms are targeting startup and small-business owners who, like Albert, use those devices at home and see the new systems as an easy-to-use, low-cost way of getting a company's phone system up and running.

What's Available There are different ways of getting the job done. Products like FacetCorp's FacetPhone (www.facetcorp.com) and Snom Technology's Snom One (macworld.com/7545) use the Mac as the platform, which often—but not always—enables business users to save additional money by tying into VoIP services such as Vonage (www.vonage.com) instead of traditional landline phone companies. Other products, like AltiGen's iFusion system (pictured; www.thefusionphone.com), put the iPhone at the center of a more extensive business communication system. All of these systems offer advantages beyond merely the familiarity of the Apple devices they employ.

They're Inexpensive Albert says he saw systems—including non-Mac options—priced from \$3500 to \$7500 for the ten-extension setup at his motorcycle business. The FacetPhone came down on the lower end, at about \$4600. The



Maynard Group, a California consulting company, estimates that the base phone system for a small business usually costs \$1000 to \$10,000 for hardware installation; add to that a VoIP-based system, which costs at least \$50 per employee per month. That's still far cheaper than Maynard's minimum estimate of \$800 per employee per month for a traditional PBX system in a small business.

Mike Plumer, vice president of sales for AltiGen, says that with the iPhone-centric iFusion companies also can save money by either putting their employees' personal iPhones to work or providing employees with a company iPhone for use both in the office and on the road. "If someone has invested in a smart device," Plumer says, "it really is redundant to have a more expensive and often less sophisticated piece of technology on your desktop."

They're Easy to Use Peter Joo is the network manager for General Dynamics, a defense industry contractor. He has been using the iFusion in his office for several months. "Typically, with a legacy phone system, you have to have a technician who is trained on PBX," he says. "This you just plug into a wall, pop in the iPhone, and that's it."

Albert says the same is true of his FacetPhone system, and his familiarity with the Mac operating system helps. "I can see how many of my salespeople are busy, how many calls there are to the service counter. I can see my general manager, Andy, and how many voice-mails are in his queue," he says. "All the other systems I looked at, you had to do that through the phone and remember the prompts. With FacetPhone, it's basically a drag-and-drop deal."

The Future Will these new systems survive? AltiGen's Plumer notes that Microsoft, Cisco, and Avaya now offer iOS apps to facilitate PBX systems—a departure from the expensive, hardware-based models of the past. "The largest providers of PBX technology in the world are providing it as an application on the iOS device," Plumer says. "There are huge implications for up-front costs, maintenance, and sales."

Still, for all the talk of the future and business advantages, the rise of Apple-based PBX systems may rest on the popularity of Apple's products. "Anything and everything I can stick on a Mac, I do," Albert says. "This is just one more thing."

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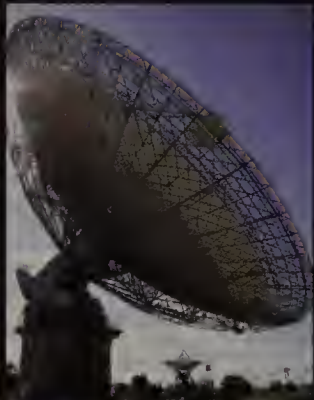
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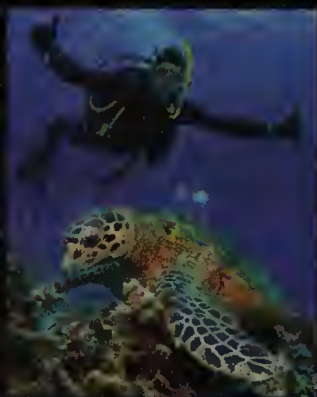


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WORKING MAC

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HARDWARE

ioSafe Rugged Portable SSD 120GB ▴

If you work on an oil rig or at heights that rival Mount Everest—or even if you don't do either of those things—ioSafe's Rugged Portable SSD promises to protect your data in extreme situations. According to the company, the drive can absorb up to 2500 pounds of pressure and survive a 20-foot drop. It can stay submerged in 10 feet of salt water or freshwater for three days, or in a foot of various oils, such as diesel, for up to an hour. The Rugged Portable is made of aluminum and shaped like an oversized iPod. It's fast (it broke two Macworld Lab records) and light (only 1.15 pounds), it comes with an extensive warranty (including data recovery services from DriveSavers), and it's a perfect size for traveling. Be aware that no matter which model you choose, you'll be paying a premium for the added security. The drive we tested was almost twice as expensive as other external SSD drives with the same capacity. If only for its toughness and data recovery services, the Rugged Portable would be a good pick, but its light weight and zippy speeds make it one of the best choices available for keeping your data safe.

★★★★½; \$499; ioSafe, www.iosafe.com

Kodak ESP Office 2170 All-in-One ▽

Kodak's ESP Office 2170, a \$130 color inkjet multifunction printer aimed at the home-office



market, can print, scan, copy, and fax. Unfortunately, you can't buy perfection at this price. The ESP Office 2170's particular weaknesses are its minimal features, slow performance, and mediocre output quality on plain paper. Simple text pages on plain paper printed very slowly at 3.7 ppm. The device fared better with other printing tasks, generally printing at average speeds: 0.6 ppm for a full-size color photo and 1.4 ppm for a PDF document with a mix of text and color graphics. Photo quality on Kodak's own glossy paper is superb: bright, crisp, and realistic. On the plain paper used for most printing, however, text is gray and slightly soft; images are dull-colored and grainy. Kodak's ink costs are notably affordable. Prints from standard-size cartridges cost an average of 3 cents per page for black and 6.5 cents for color. The Kodak ESP Office 2170 is a good photo printer that can handle basic office chores at low volumes. But if you're looking for an office workhorse, spend a little more money up front for a model that's a better all-around performer.

★★★; \$130; Kodak, www.kodak.com

LaCie Little Big Disk Thunderbolt Series 2TB ▸

If you're the owner of a new MacBook Pro, MacBook Air, Mac mini, or iMac, and you want something to plug into its fancy new Thunderbolt port, your options have been pretty limited up to now. But the arrival of LaCie's Little Big Disk Thunderbolt Series expands the field in a big way. You can configure this portable external two-drive RAID array as a mirrored or striped array using OS X's Disk Utility. The aluminum drive's price doesn't tell the whole story: You must also purchase an Apple Thunderbolt cable (\$49),



Top Products YOUR GUIDE TO THE BEST HARDWARE WE'VE TESTED



HARD DRIVES

Desktop

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
AV Drive www.caldigit.com	★★★★½	\$170 (1TB)	USB 3.0	6757
iTi Dock www.istoragepro.com	★★★★	\$329 (2TB)	quad interface	5843
SoloPro (pictured) www.iosafe.com	★★★★	\$249 (1TB)	USB 2.0 and 3.0	7136



HARD DRIVES

Portable

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
ioSafe Rugged Portable SSD www.iosafe.com	★★★★½	\$499 (120GB)	single interface	7559
Mercury Elite-AL Pro Dual mini (pictured) eshop.macsales.com	★★★★	\$180 (640GB)	triple interface	7256
My Passport Essential www.wdc.com	★★★★	\$100 (500GB)	single interface	7521



INPUT DEVICES

Keyboards, Mice, Pen Tablets

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
Intuos4 Wireless intuos.wacom.com	★★★★½	\$349	pen tablet	6422
Magic Trackpad www.apple.com	★★★★	\$69	trackpad	6436
Wireless Solar Keyboard K750 (pictured) www.logitech.com	★★★★	\$60	keyboard	7560



PRINTERS

Laser

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
5130cdn (pictured) www.dell.com	★★★★½	\$1065	LED, color	6009
C544DN www.lexmark.com	★★★★½	\$349	LED, color	4356
Color LaserJet CP2025dn www.hp.com	★★★★	\$341	LED, color	4823



PRINTERS

Multifunction

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
Color LaserJet CM1312nfi www.hp.com	★★★★	\$350	laser	5183
Pixma MG6120 www.usa.canon.com	★★★★	\$180	inkjet	7254
WorkForce 840 All-in-One (pictured) www.epson.com	★★★★½	\$150	inkjet	7323

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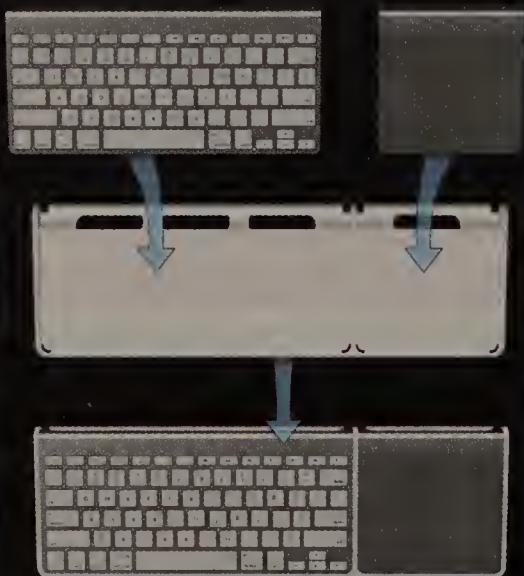


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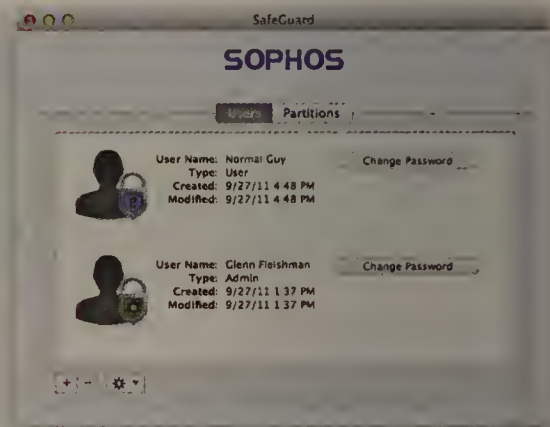
bringing the total cost of the 2TB version to almost \$600. That's nearly double what a 2TB portable drive with a quad interface might cost. That said, the LaCie drive is fast—at least twice as fast in most tests as a similar RAID array we tested using FireWire 800. The Little Big Disk topped 207 megabytes per second (MBps) in the AJA System read test and 190 MBps in the AJA System write test. When reading a 2GB file, the Little Big Disk sped along at 167 MBps. If you have a recent Mac with Thunderbolt, especially a MacBook Air, then the Little Big Disk is the least expensive, smallest Thunderbolt drive—and the fastest portable hard drive—currently available.

💡💡💡; \$550; LaCie, www.lacie.com

Samsung SP-H03 Projector ▶

Samsung's LED pico (handheld) projector, the SP-H03, impresses with its tiny form. It takes up less surface area than a DVD disc and is just over an inch tall—that's including the detachable battery, which offers two hours of use. It also weighs less than half a pound, so you can grab it and go. Touch-sensitive illuminated buttons run along the top of the projector, and there's a focus slider on one side. With the exception of the SD Card slot, all the inputs are located tidily behind a removable plate. The projector doesn't produce a very visible image in ambient light. Even in fairly dim daylight, projections seemed washed out; turning out the lights is a must. The 854 by 480 resolution produces a decent-size image akin to that of a large television. One downside of the projector's compact size is that it's all too easy to nudge or otherwise move it out of position. Fortunately, with 1GB of internal storage, the included battery pack, and the SD Card slot, you can opt to project completely wirelessly. Whether you hold it in your hand, mount it on a tripod, or place it on a desk, the SP-H03 provides a decent image in a supersmall package.

💡💡💡; \$300; Samsung, www.samsung.com



SOFTWARE

Sophos SafeGuard Disk Encryption 5.5 ▲

Sophos SafeGuard Disk Encryption for Mac offers full-disk encryption, with protection at boot time from unauthorized access. Full-disk encryption scrambles the entire contents of a disk drive, rendering it ostensibly unrecoverable without access to a long encryption key, or a shorter account passphrase that unlocks that key. The biggest challenge facing Sophos's developers is to convince users they need it, as Lion already offers full-disk encryption in the form of FileVault 2. The program doesn't quite make its case. Rough edges and a confusing user interface make Sophos SafeGuard considerably harder to use than Apple's FileVault 2, even for experienced users. The documentation is also difficult to follow. There's no assistant to guide you through basic tasks, like creating an admin or regular user account and one or more recovery accounts. Sophos could stand to improve its interface and documentation while adding a couple of features. (For instance, the program can't encrypt external drives.) At this point, the only compelling reason to choose SafeGuard over FileVault 2 is to avoid some issues that the latter has with boot-drive partitions: FileVault 2 works only on a Mac OS X boot volume in which the Lion Recovery partition is installed and working, and you can't use a custom partition scheme. FileVault users have reported all sorts of problems after messing with Lion partitions. SafeGuard, on the other hand, lets you encrypt any number of partitions on the boot drive, and a Lion Recovery partition isn't a requirement.

💡💡💡; \$60; Sophos, www.sophos.com

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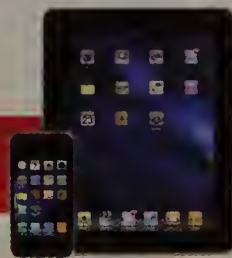
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Drop Ban on Mac 'Bootleggers,' Analyst Advises

Workers are spending their own money on Mac laptops to access their company's resources, a Forrester Research survey reports. But 41 percent of those firms block all use of corporate resources from Macs, prohibiting the Mac users from retrieving email messages and barring connections to the corporate network.

"That leaves a lot of employees to find their own ways to get around corporate prohibition," Forrester researcher David Johnson said in his report, dubbing the strategy "bootlegging." The problem, he said, is that enterprise IT responsibilities have shifted from assisting users to serving as the gatekeeper that governs and controls what tools employees work with and what they do with those tools. "End users don't like that, and if IT doesn't change, they'll vote them out of office," said Johnson.

He recommends that companies make room for Macs by supporting an employee-driven community for self-help, offering Mac-specific management tools rather than trying to piggyback onto Windows, and supporting virtual machines on Macs for users who must access Windows applications.—GREGG KEIZER

Affordable 3D Scanner Arrives

The HP TopShot LaserJet Pro M275 (macworld.com/7549) is now available in the United States for \$400. This hotly anticipated device—targeted to small and home-based businesses—represents a new category of multifunction printer. The color laser multifunction printer performs the traditional MFP tasks of printing, copying, and scanning, and it also offers a completely different way to scan 3D objects, producing eye-catching images that you can post or store online—for example, when you're selling items on eBay.

The scanner features a camera with a high-quality optical lens and a high-resolution sensor embedded into a hinged arm above the device. The technology captures six images of a single 3D object—three using a flash from different angles, and three in ambient light at different exposure levels. It then combines those shots into a single high-resolution image. The HP M275 provides direct connectivity to the Web and to cloud-based services.—JACKIE DOVE



Google+ Pages for Businesses Launch

Facebook and Google are going toe-to-toe again. The new Google+ Pages feature allows businesses to establish a presence on Google's social network and engage with customers to share product news or services, provide added value, answer support questions, and more.

Individual Google+ users can employ the "+1" option (equivalent to "Liking" on Facebook) to share Google+ Pages with their social network or add those pages to their Circles. For the most part, Google+ Pages will seem familiar to the 800 million Facebook users already accustomed to Facebook Pages. Google has brought a little something extra to the table, however, with Direct Connect. Google indexes Google+ Pages and displays them in search

results, but Direct Connect lets you jump straight to a business's Google+ Page by simply typing a plus sign (+) followed by the business's name. For example, typing **+Toyota** in a Google search field takes you directly to Toyota's Google+ Page.

—TONY BRADLEY



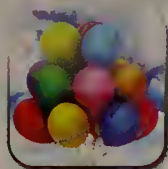
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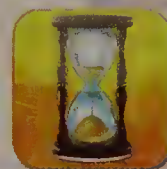
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PLAYLIST

Everything You Need to Know about iPods, iTunes, and Mac-based Entertainment

iTunes Match: What You Need to Know

We take on common questions about Apple's newly launched music service

BY SERENITY CALDWELL

Q&A

iTunes Match is here (for U.S. residents, at least), and it's brought along a rush of queries, concerns, and misconceptions. Never fear: *Macworld* is here to help make sense of it all.

Q: What exactly is iTunes Match and why does it cost money?

A: Apple's \$25 yearly subscription service is part of its iTunes in the Cloud initiative (though you only need an Apple ID, not an iCloud account, to enroll).

What Is It? iTunes Match does two things: First, it scans and matches your tracks with songs in iTunes' catalog—so that it doesn't have to upload the songs iTunes already has—and then it uploads any unmatched tracks to Apple's servers. Second, it lets you stream those songs or download them to up to ten Apple ID-associated devices.

Up to 25,000 tracks that you have in your iTunes library—but that you didn't purchase with your Apple ID from the iTunes Store—are eligible to be matched and uploaded. If you have more than that number, you can't sign up for the service without employing a trick or two (see "Dealing with the 25,000-Track Limit").

Why Must I Pay? Since iTunes Match is not directly associated with iCloud, it uses separate storage for any tracks you upload. We'd also venture to guess that Apple pays record companies a certain amount when you redownload a track. Most likely, this \$25 fee helps cover that deal, and lets you upgrade songs you've ripped from a CD or received from other sources to higher-quality versions.



Q: Who can use the iTunes Match service?

A: Anyone with an Apple ID in the United States (likely due to licensing restrictions). We're not sure when it will show up in other countries, though Apple did say at its 2011 Worldwide Developers Conference that it hoped to roll iTunes Match out internationally by the end of the year.

Q: Can I maintain several separate iTunes Match accounts on one computer?

A: Unfortunately, no. You can only associate your Mac or PC with one Apple ID for iTunes Match—even if you have separate iTunes libraries and

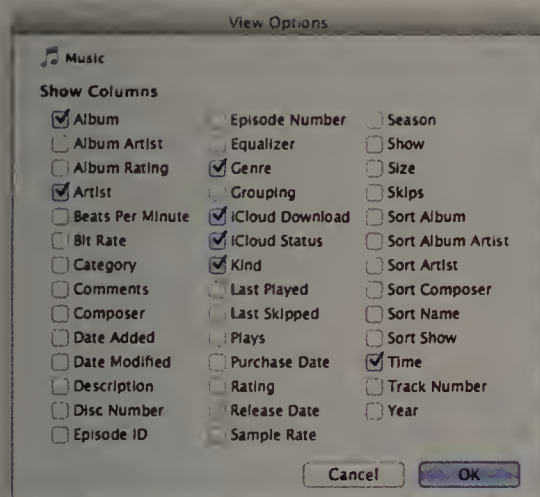
user accounts. If you want to change to another Apple ID, you can—but after you switch, you won't be able to change it back for 90 days.

Q: I've got several devices. How do I turn iTunes Match on?

A: On an iPhone, iPod touch, or iPad, head to Settings ► Music ► Turn On iTunes Match. On a Mac, open iTunes and go to Store ► Turn On iTunes Match. On an Apple TV, go to Music ► iCloud Library.

Q: What kinds of content can iTunes Match upload or match?

A: Anything iTunes-compatible: That includes AAC (.m4a),



View Your Matches Select iCloud Download and iCloud Status to see how iTunes Match has categorized your tracks.

Protected AAC (.m4p), MP3, WAV, AIFF, Apple Lossless, and more.

You can't match video, PDF booklets, voice memos, or certain types of files (see support.apple.com/kb/HT4914).

Q: How can I tell which songs the service has matched? Uploaded? Downloaded?

A: Turn on the iCloud Status column in iTunes by going to View ► View Options. This lets you see how Match has categorized songs.

Q: Where are my uploaded iTunes Match songs stored?

A: As part of your subscription, iTunes Match stores uploaded songs to a central server; when you want

to play them back or download them, Match redownloads that data locally to your device.

Q: So do my iTunes Match songs stream or download?

A: On a Mac, any cloud-stored songs stream when played, though you can download a song by clicking its iCloud download button. iOS devices have no such streaming option, however: You have to download songs in full. Apple TVs can only stream songs, because they lack on-board storage.

Q: Does iTunes Match replace iTunes Plus?

A: Yes. Previously, users who wished to upgrade DRM-laden music had to pay a 30-cents-per-track fee as part of iTunes Plus. With iTunes Match, however, you can match and replace any track you're authorized to play. (If you aren't subscribed to iTunes Match, you can still use iTunes Plus.)

Q: Will Apple know if any music has been illegally downloaded when it matches my library?

A: Good question. We don't know, but it doesn't seem likely. For one thing, that may be a privacy violation; even if that's not the case, it seems like a bad move. It's probable that part of the \$25 subscription fee is going toward



Dealing with the 25,000-Track Limit

For now, iTunes Match only works with iTunes libraries that have 25,000 or fewer tracks (not including those you've purchased from the iTunes Store). There is a way around this size limit: Use a different library.

To do so, quit iTunes, hold down the Option key, and relaunch the app. Choose the option to create a new library. When iTunes opens, choose Turn On iTunes Match from the Store menu. Enter your Apple ID and password, and click OK.

Now open iTunes' preferences, click the Advanced preference, uncheck the Copy Files To iTunes Media Folder When Adding To Library option, and click OK. Next, select File ► Add To Library and browse for tracks that you want added to iTunes Match. When you're finished, choose Store ► Update iTunes Match.

Match runs through its three-step program—gathering information about your (new, smaller) library, matching your library with tracks in the iTunes Store, and uploading artwork and songs the Store doesn't have.

You can now switch back to your regular library (quit iTunes, hold down the Option key as you relaunch the program, and choose your old library). The tracks you've matched will still be available to your other computers and iOS devices.—CHRISTOPHER BREEN

iTunes Match

Your iTunes library is now available in iCloud.
23503 songs are now available in iCloud.



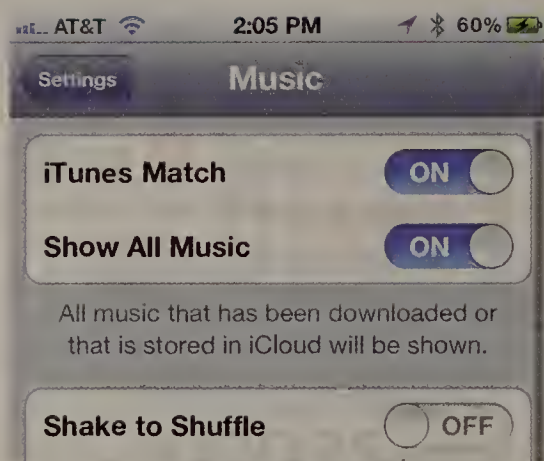
To access your music in iCloud from your iPhone, iPad, or iPod touch, tap Settings, then tap Music and turn on iTunes Match.

To play your music from iCloud on your Apple TV, select Music, then select Turn On iTunes Match.

You can also access your music in iCloud from your other computers by choosing Turn On iTunes Match from the Store menu within iTunes.

iCloud requires iOS 5 on your iPhone, iPad, or iPod touch.

Sign-up Success After matching and uploading your music, you'll see this message in iTunes.



Hard Copy Turn off Show All Music to view only the songs you have on your device.

placating the record companies in that regard—but that's a guess on our part.

Q: Some of my tracks show up as matched, but they're not in the iTunes Store. Huh?

A: Even if Apple doesn't sell a track, it may turn up as matched. That could be due to licensing: Record companies might be OK with users upgrading an old CD collection, but may not want to sell that music as downloads.

Q: How do I replace my matched low-quality songs with iTunes 256-kbps AAC tracks?

A: Highlight songs you wish to replace, delete them, and redownload them by clicking the iCloud download icon.

Q: Can I tell iTunes Match not to sync certain songs?

A: Yes, but it's a bit complicated. To hide purchased tracks, head to the iTunes Store on your Mac, click the Purchased link in the right sidebar, and then hover over the tracks in question and click the X button. To view hidden songs, in iTunes, go to Store ► View My Account.

Another option is to sync your entire music library with iTunes Match, then enable Match on a secondary computer. Highlight the songs you want to remove and press the Delete button. Your downloaded tracks still show up in your music library, with an iCloud status of Removed. iTunes Match continues to scan *new* tracks from your library, but Removed tracks stay unmatched.

Q: How can I hide iTunes Match songs I haven't downloaded?

A: On your Mac, open iTunes and go to Music ► Hide Music Not On This Computer. On your iOS device, go to Settings ► Music and turn off the Show All Music toggle.

Q: Do I lose my metadata if I delete and redownload my iTunes tracks?

A: Nope. Your song's rating, play count, and info all transfer over.

Q: Will songs download over 3G on my iOS device?

A: They will, but only if you allow them to. Go to Settings ► Store. Toggle on Use Cellular Data to download content over 3G; turn it off if you'd rather limit your device to Wi-Fi.

Q: I want iTunes Match on my computer, but I don't want it on my iPhone. Can I still sync normally?

A: Absolutely. If you leave the iTunes Match toggle flipped off on your iPhone, iPod touch, or iPad, it continues to sync normally with your computer—even if that computer is using iTunes Match.

Q: What happens if I don't resubscribe after the first year? Do I lose any upgraded songs?

A: Nope! The only thing you lose is the central storage—iCloud will no longer let you stream or download matched or uploaded songs to your various devices. Any songs you've upgraded or redownloaded are completely safe.

Serenity Caldwell is a staff editor for *Macworld*. Senior Editor **Christopher Breen** and Staff Writer **Lex Friedman** contributed to this story.

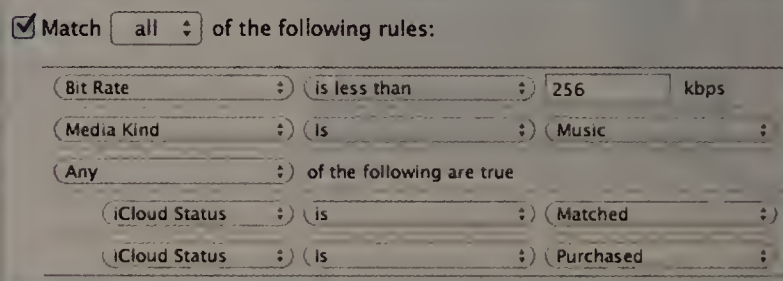
How to Upgrade Tracks to iTunes Match, Fast

If you've signed up for iTunes Match, you can replace your old music files with shiny, new 256-kbps AAC versions.

First, create a smart playlist with the following rules: Bit Rate Is Less Than 256 Kbps, Media Kind Is Music, iCloud Status Is Matched, and iCloud Status Is Purchased. (To add that last conditional, you need to Option-click the plus-sign [+] button.)

Now open the playlist, select all of its tracks, and then hold down the Option key while pressing Delete. If iTunes offers to move the files to the trash, allow it to, but do *not* select the box that would delete them from iCloud. Select all of

those tracks again, control-click on the selection, and choose Download. iTunes begins the long process of redownloading all your files.—**JASON SNELL**





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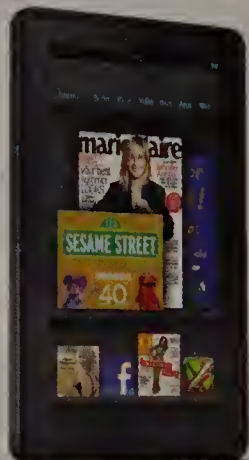
Home Entertainment Hardware, Software, and Accessories

HARDWARE

Amazon Kindle Fire ▷

Despite its slick veneer and unparalleled shopping integration, the Kindle Fire fails to impress as either a tablet or an e-reader. The Kindle Fire is best considered a relatively inexpensive, hassle-free, but flawed way to consume books, music, and videos purchased through Amazon. As a tablet, though, the Fire can't hold a candle to the best ones available today: It has subpar specs, a limited interface, and a surprisingly messy app store. Clearly, Amazon had to make several trade-offs to achieve the Kindle Fire's \$200 price. It's easy to dismiss some of its weaknesses as necessary compromises for the low price point. But if you're looking for something that's similar to the Apple iPad 2, the Fire will disappoint you.

🔊🔊🔊; \$199; Amazon, amazon.com



good, but the overemphasized bass detracts from the C5's overall performance. The attractive design is well intended, but it's not enough to keep us from feeling that the C5 should deliver more given its price and the company's audio heritage.

🔊🔊🔊; \$180; Bowers & Wilkins, bowers-wilkins.com



Logitech Harmony Link △

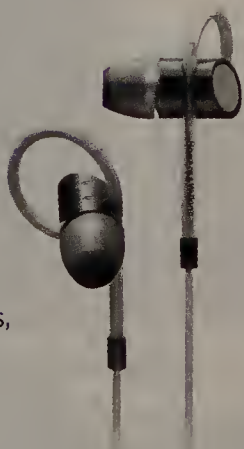
For the last decade or so, Logitech's Harmony line has been consolidating the controls for multiple home entertainment components into handy universal remotes that are reasonably easy to set up. With the Harmony Link—a \$100 base

station that looks like a 6-inch flying saucer and works with free iOS and Android apps and a Wi-Fi network—you can use your iPhone or iPad to do everything Logitech's conventional high-end remotes can do, and then some. Unfortunately, the Harmony Link's software needs some more work to make it a truly satisfactory alternative to a hardware remote. Setup is relatively simple, aided by Logitech's extensive database of consumer electronics, which it uses to map the buttons on various remotes to the Link. But many of the common functions of the remotes it's replacing aren't easily accessible on the Link. And some mapped functions don't control the correct devices—for example, when we tried to set up a Roku box as a custom activity, the graphical interface would operate the TV only. Although the Harmony Link has the potential to turn an iPad or iPhone into a great universal remote, it's not yet a good substitute for hardware remotes that let you exercise finer control.

🔊🔊🔊; \$100; Logitech, www.logitech.com

B&W C5 In-Ear Headphones ▷

Bowers & Wilkins (B&W) has long been a respected name in the high-end audio business. But over the past few years, the company has been trying to move beyond that niche and into the general consumer electronics market. That foray started with the company's first headphones, the P5. Now we have its first in-ear design, the \$180 C5 In-Ear Headphones. Unfortunately, while the C5 is a solid product, it doesn't live up to the precedent established by the company's previous products. The sound quality is



iPods: Current Lineup

PRODUCT	SPECS	RATING	PRICE ^a	DISPLAY	PERFORMANCE	FIND CODE ^b
iPod Classic	160GB	🔊🔊🔊	\$249	2.5-inch color	36 hours of music playback; 6 hours of video playback	5262
iPod Touch	8GB	🔊🔊🔊½	\$199	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6553
	32GB	🔊🔊🔊½	\$299	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6554
	64GB	🔊🔊🔊½	\$399	3.5-inch color (Retina)	40 hours of music playback; 7 hours of video playback	6555
iPod Nano	8GB	🔊🔊½	\$129	1.5-inch color	24 hours of music playback; 5 hours of video playback	6551
	16GB	🔊🔊½	\$149	1.5-inch color	24 hours of music playback; 5 hours of video playback	6552
iPod Shuffle	2GB	🔊🔊🔊	\$49	none	15 hours of music playback	6550

^a All prices are Apple's prices. ^b In a browser's address field, typing a find code after macworld.com/ takes you to a product's review or overview.

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Macworld **HOT STUFF**

What We're Raving
about This Month



XtremeMac Tango Bar

Upgrading an aluminum iMac's speakers, or looking for speakers to match your Cinema Display? XtremeMac's \$100 Tango Bar could be what you want. This compact sound bar slips underneath your display and uses a single USB cable to get both power and audio. (You can also power the Tango Bar from an AC adapter, and then connect it to an iPhone, iPad, or other audio source via its line-in jack.) The company claims that the Tango Bar can deliver twice the audio output of most USB speakers, using six drivers that produce impressive range despite the compact design. You also get a headphone jack, as well as a subwoofer output port to connect an external powered subwoofer. An amber-backlit volume knob on the end completes the package (xtrememac.com).—**DAN FRAKES**

iHome iP4

At this point, iPhone and iPod stereo docks are a dime a dozen. But iHome has something distinctive in its boom-box-inspired iP4 speaker dock. While the \$200 iP4 exudes 1980s nostalgia with its fat plastic panels, its minimalist design imparts modern flair. It should sound pretty good, too, thanks to a pair of 4-inch carbon-composite woofers and two 1-inch ferro-fluid-cooled tweeters. Its LCD displays an equalizer, and it offers oversize backlit buttons, an FM radio, an auxiliary line-in jack, and a remote that attaches magnetically. Available in matte gray or pink (ihomeaudio.com).—**KEVIN LEE**



Kindle Owners' Lending Library



Kindle Owners' Lending Library

If you own a Kindle device (the actual hardware, not the Mac or iOS apps) and subscribe to Amazon Prime, you now have access to thousands of books that you can borrow for free, for as long as you want. (You can borrow only one book per month, though.) Among the titles available at launch: *Moneyball* and *Liar's Poker* by Michael Lewis, *The Hunger Games* trilogy by Suzanne Collins, and *Water for Elephants* by Sara Gruen (amazon.com).—**LEX FRIEDMAN**

JBL Jembe

JBL's \$60 Jembe powered speaker system offers an edgy, gloss-black-and-metal-grill design with speakers that each take up about as much desk space as a coffee cup (just 5.3 inches tall and 4.2 inches across). Connect a standard audio cable from your computer, iPhone, or iPad, and you get sound that's bigger than you might expect, given the size of the left and right speakers. A second input on the left speaker lets you connect another audio source, and a headphone jack makes it easy to enjoy some private time (jbl.com).

—**DAN
FRAKES**



TWELVE SOUTH BASSJUMP 2

Twelve South's BassJump 2 is an update of the company's original USB-powered subwoofer. The hardware hasn't actually changed much, but the software has. From the BassJump preference pane, you can adjust the volume and crossover frequency, as well as customize the sound to fit the kind of music you're listening to. The \$70 BassJump 2 is also now compatible with third-party USB speakers, as well as Apple's Thunderbolt Display speakers. Owners of the original BassJump can upgrade the software for free by downloading the update (twelvesouth.com).—**ALEXANDRA CHANG**

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Back Up Your Photos in the Cloud

Strategies for image backup and remote access protect image assets

BY DERRICK STORY

Creating your own cloud storage system doesn't require a degree in computer science. But choosing the right equipment does ease the process. Several companies offer network-capable hard drives that can both store backups of your photos and provide remote access to them. These network appliances typically house a couple of drives, basic server software, and an ethernet connector. Since you needn't wire these units directly to a computer, they can reside anywhere you have power and an Internet connection. With these ingredients, you can create a backup system for your image library that also provides access to multiple Macs over a local network and the Web.

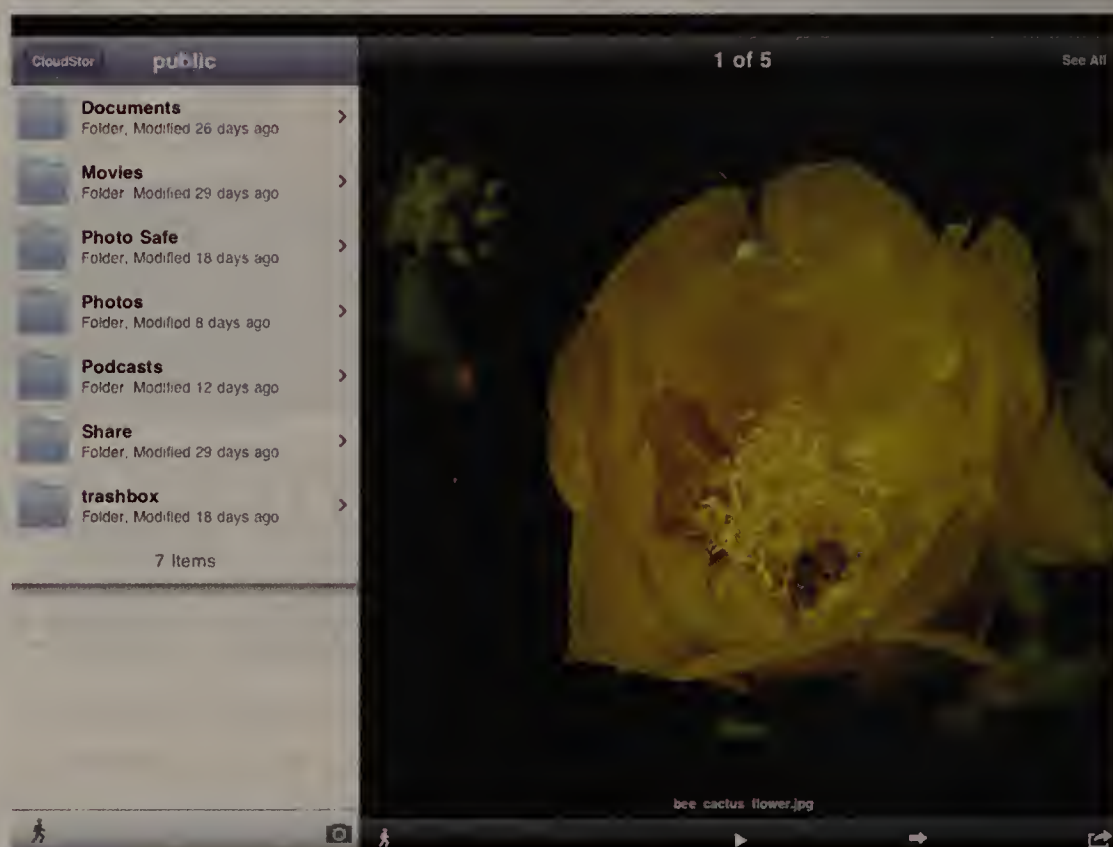
I tested three network-enabled hard drives ranging from about \$180 to \$320 at press time (street price; shop around for the best deals): Buffalo Technology's CloudStor 2-Bay 1 TB (1 x 1 TB) Gigabit Ethernet Network Storage (www.buffalocloudstor.com) with an added drive; Iomega's StorCenter ix2 2-200 Network Storage, Cloud Edition (macworld.com/7580); and Seagate's BlackArmor NAS 220 2-Bay 2TB Network Attached Storage (macworld.com/7581).

All three units offer RAID 1 mirroring. This protects you from hard-drive failure.

Each houses two 1TB drives. I evaluated these devices based on their ease of setup, Mac compatibility, network reliability, design quality, and value.

Buffalo Technology CloudStor

The Buffalo drive was by far the easiest to set up and use. Unlike the Iomega



On the iPad The affordable Buffalo CloudStor has a well-designed and easy-to-navigate iPad interface.

and Seagate units, the CloudStor uses network-connectivity software provided by a partner: Pogoplug. To set up the drive, connect it to the Internet via its ethernet port, power up the unit, and

enables you to view files on the CloudStor as you would on a network drive on your desktop. This is much easier than working through a browser interface. Pogoplug also offers free apps that let you access files on the iPhone, iPod touch, and iPad.

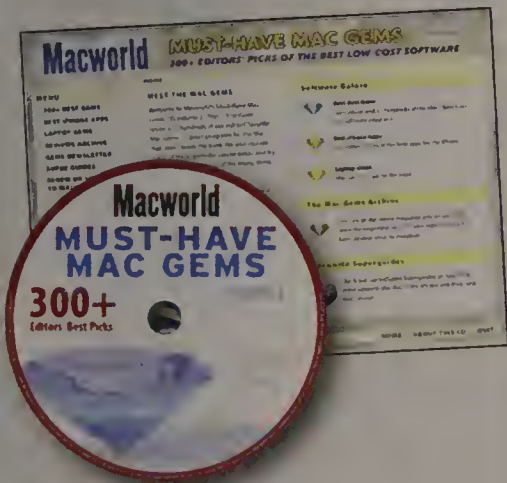
The downsides to the Buffalo CloudStor are that it's noisy and somewhat flimsy.

On average, it took the Buffalo CloudStor about a minute and a half to download a 27MB raw file from a remote location. You can preload the CloudStor with your master image files by connecting a separate hard drive via the CloudStor's USB port, and then access those files from anywhere you have an

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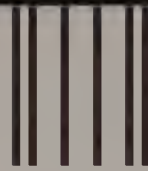
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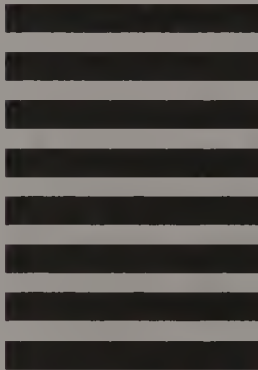
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Internet connection. It's not the fastest server, but it's fine for small batch downloads. The second task was using the CloudStor as an image backup device while on location. Unfortunately for people shooting raw images, the technology isn't there yet. I tried a shoot of 79 raw files totaling about 2GB, and uploaded them off the card from my MacBook Air to the Buffalo CloudStor at my studio, about six miles away. Even with good cable Internet access, the upload took about two hours.

Iomega StorCenter ix2

The Iomega unit feels solid and looks handsome. It includes the Iomega Storage Manager app for the Mac, which helps you connect to the device.

On my local area network using a third-generation AirPort Extreme, I could access the StorCenter with any of the networked Macs via the app. But cloud access was far more difficult to enable, because you have to configure the AirPort for port forwarding. If local network access is all you need, then the Iomega StorCenter is a capable device. But cloud access requires an understanding of advanced network configuration.

Seagate BlackArmor

The Seagate unit is best suited for small businesses that need a network drive for a few employees. The Web-based administrative tools are intuitive. The BlackArmor Discovery software for the Mac makes it easy to connect to the drive over a local network. A network drive icon appears on your desktop, and you can drag and drop files to the device.

File sharing is more difficult when you access the BlackArmor via the Internet. The Seagate Global Access service has you work through a Web interface to transfer files. It's far more cumbersome than drag-and-drop transfer. Plus, the service tends to go offline periodically. If this happens, you have no Internet access to the device until Seagate restores service.

If you just need drive access over the local network, the BlackArmor is a terrific unit. If cloud access is important, I don't recommend this device.

Security and Drive Configuration

All three devices require authentication for access. Pogoplug uses a 26-digit personal identifier code along with encryption for cloud access to enabled devices. So, assuming that your computer

and network are secure, the software does a good job of shielding your data.

All three units are capable of RAID 1 mirroring. This helps protect you from hard drive failure by mirroring the contents of one drive onto the other. By doing so, you cut your drives' total capacity in half. All of the units can be configured to use all the space for file storage (RAID 0). You need to decide whether to mirror drives when you first set up the unit, because switching RAID 1 on or off will erase the existing data on your drives.

All the devices have USB ports that allow you to connect another hard drive and upload data. The Iomega StorCenter has three ports; the Seagate BlackArmor, two; and the Buffalo CloudStor, one.

What Should You Do?

For ease of setup, network reliability, and flexibility, it's hard to beat the Buffalo Technology CloudStor. Not only is it affordable, but it allows you to access your data from a Mac or on-the-go from your iOS device.

Senior Contributor **Derrick Story** teaches iPhoto on Lynda.com and runs a virtual camera club at thedigitalstory.com.

'CAPTURE IT' FONT REFLECTS URBAN AMBIENCE

Navigating city streets doesn't leave us much time to admire the latest spray typography from the local public works department, but we found a lot to brake for in Capture It (free; macworld.com/7582), Hungarian designer Koczman Bálint's stencil typeface. Although the San Francisco Department of Public Works has serious spray-down cred, it has yet to match this designer's gritty urban look.

Two typefaces are included in this download: Capture It is the positive—the letter you get when you spray paint through a paper stencil; Capture It 2 is the negative—the stencil itself in black, with the letter knocked out. Both faces share the same distressed styling, providing a full-on spray texture to asphalt-bound commands like STOP AHEAD. The letters are transparent in Capture It 2, leaving the forms open for additional background textures. Unfortunately, staying true to form has its drawbacks. The solid surround mimicking the stencil card cancels out any possibility of tight letterspacing, unless you resort to rasterizing the characters and trimming them down manually.

Like its real-world inspiration, Capture It is made for signage, but not for the subtle styling of prose. It doesn't have any lowercase, and it doesn't stick to the traditional stencil model of 26 caps and ten numerals. Both typeface versions remain a work in progress. Capture It's character count is close to 200, including a full array of numerals and punctuation, along with math and monetary symbols, and even diacritics—accents count when the phrase *One Way* translates into *Egyirányú* in the designer's native language. The design itself is copyrighted, but the designer has generously licensed his creation for personal and commercial use.—KATE GODFREY



Top HDR Programs from the Mac App Store

BY BEAU COLBURN

If you've ever taken a photo outside on a bright day, only to find one part of it way too dark and the other part way too light, you've stumbled on a major issue with digital photography—a single exposure has limited dynamic range.

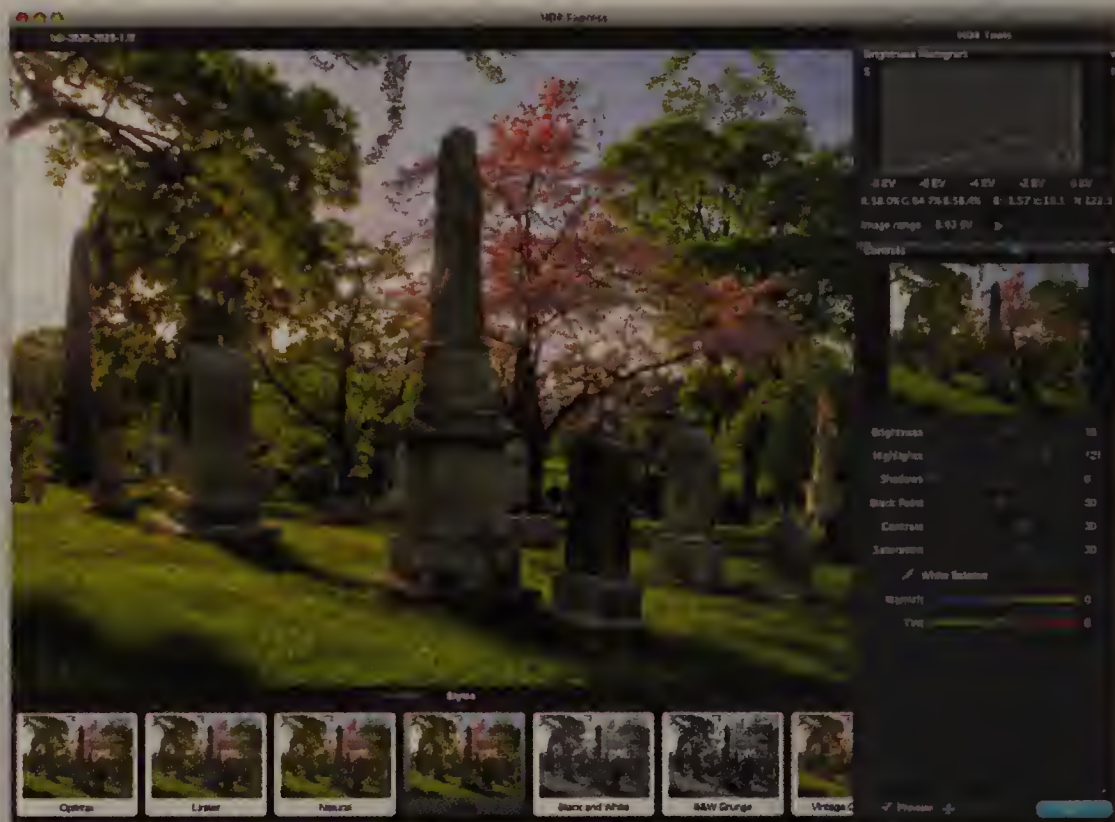
The Mac App Store contains a wide and growing range of HDR apps for Mac OS X. Choosing one depends on your goals and your level of interest in HDR photography, but also on how much you want to spend. Here are four apps compared by price, features, and results.

HDR Darkroom

Everimaging's HDR Darkroom combines multiple image files into an HDR photo (\$79; www.everimaging.com). The app's strength lies in its three tone-mapping engines: Local Tone Balancer, Local Tone Enhancer, and Fast Tone Compressor. After you select an engine, the slider controls in the Tone Mapping Parameters panel adjust automatically. Local Tone Balancer balances highlights and shadow detail in small areas via the Strength and Local Lighting sliders. The Local Tone Enhancer engine is for targeting shadow detail. The Fill Light slider is the key to this engine—it reduces overall contrast and lightens darker areas of the photo. The final engine, the Fast Tone Compressor, applies a uniform adjustment to all areas and allows for the quickest adjustments of all the engines. HDR Darkroom's user interface is relatively intuitive but could use a little more polish.

HDR Express

HDR Express, from Unified Color Technologies, offers a series of thumbnail presets for tone mapping and style settings (\$100; www.unifiedcolor.com/hdr-express). You can adjust any preset on the right side of the window by using slider controls that change the brightness, highlights, shadows, black point, contrast, and saturation. You can also save any custom changes as presets.



Preview Thumbnails HDR Express has Tone Map previews at the bottom of the window. To apply an effect, just click on the desired thumbnail.

The Styles filters range from standards such as Vivid and Black & White to dramatic looks like Grunge and Retina Burn. These styles are completely optional, and you can skip them in favor of straight HDR. Overall, HDR Express is an app that uses HDR as a starting point for a more full-featured image editor.

Hydra Express

If you're comfortable with iPhoto, you will feel at home in Creaceed's Hydra Express (\$50, www.creaceed.com). From the app's icon to its user interface, Hydra feels very much like a native Mac app. When you launch it, a window opens and prompts you to drag and drop the images you want to use for an HDR photo. These images are displayed in a large dynamic preview window. Editing controls are straightforward. The Tone Mapped editing pane has three tone-mapping methods: Compression, Local Adaptation, and Perceptive.

Each method offers a different slider for adjustments, and the changes appear in real time. When you're happy with what you see, click the Render button and choose a file output type.

Light Compressor

Don't be fooled by Light Compressor's price tag (\$1; www.lightcompressor.com). This basic HDR app from Tai Shimzu yields solid results. With very simple controls, it allows you to quickly drag three image files to the main window and make tone-mapping and curves adjustments to the combined image. Three sliders under the tone-mapping controls let you adjust strength, radius, and saturation. Below that is a familiar Photoshop-style curves adjustment tool, which lets you set multiple adjustment points by clicking the plus-sign button (+) near the top of the window. Light Compressor's default tone-mapping settings seem overly strong, but can yield pleasing results when lowered slightly.

Mixel: Create and Share iPad Art

BY ALEXANDRA CHANG

If you're a doodler, a scrapbooker, a collage-maker, or just someone with a lot of unused artistic energy, you might find the perfect outlet in Mixel, a free new iPad app from Lascaux Company. The app offers a platform to create, share, and remix *mixels*—digital collages made with images from the Web, the app's image library, and personal photos.

Mixel aims to reach a broad audience, attempting to do for art what's been done with photography. New tools like the iPhone camera and apps like Instagram have turned everyone into a photographer, making photo-taking a more casual, fun, and social experience.

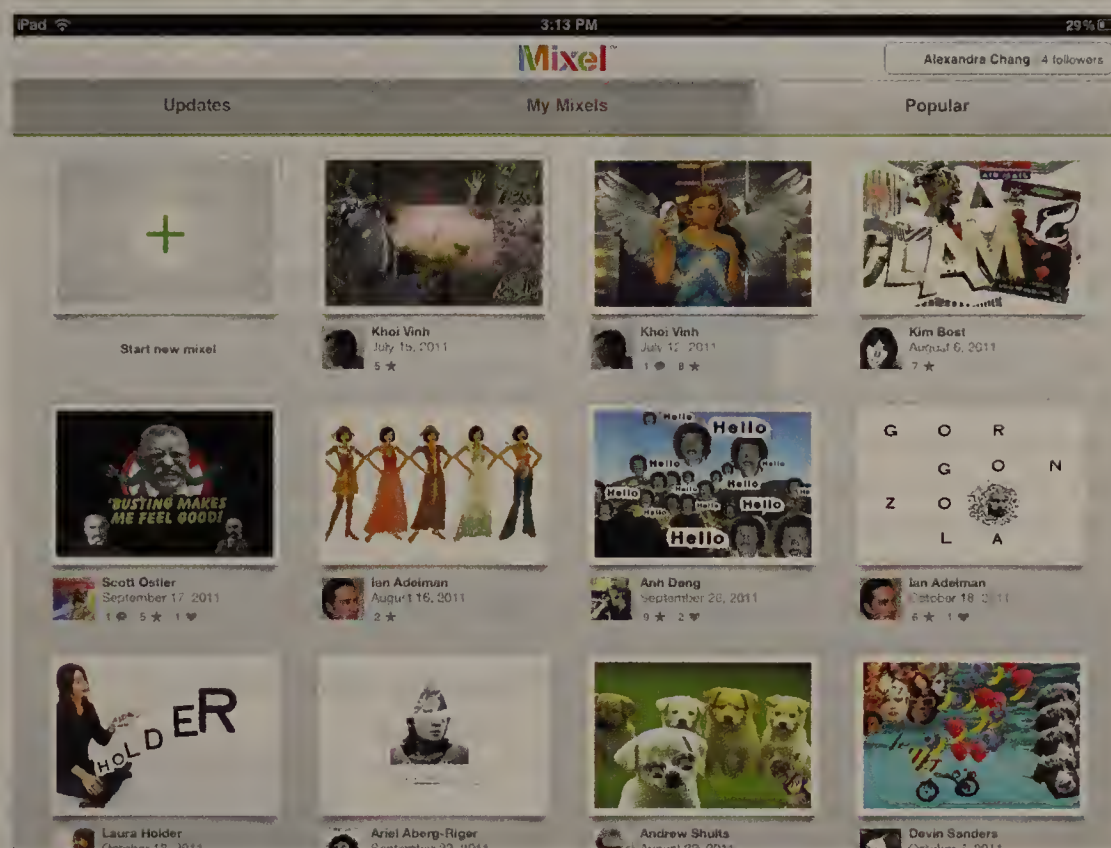
"The key ingredient currently missing from art-making software is social," Khoi Vinh, the cofounder of Lascaux and the former digital design director of the *New York Times*, told *Macworld*. "If you could combine art-making with a dynamic social graph, then it can become addictive."

Mixel is divided into three simple tabs: Updates, My Mixels, and Popular.

Like other social networks, Mixel lets you follow users, "like" posts, and comment on individual entries. The app, which requires that you sign in with Facebook, finds any Facebook friends you have on Mixel, recommends users worth following, and lets you invite friends from your iPad's address book so that you aren't alone in the app.

Easy and Fun Process

Actually making a mixel is simple—I put together my first mixel in just a few minutes. And while it's not the most stunning work of art, it was fun and easy to do. Creating mixels with the app is similar to making a physical collage. Instead of cutting out magazine, newspaper, and personal photo clippings, users choose images from their iPad camera roll or Facebook photos, Mixel's image library, and images from the Web. Fingers replace



Captivating Creativity Mixel is separated into three simple tabs—Updates, My Mixels, and Popular. The Popular tab features the mixels with the most "likes."

scissors and glue—Multi-Touch gestures let you crop, resize, rotate, flip, duplicate, and combine images on a blank canvas.

Once you're done with a mixel, you post it to the app, making it visible to Mixel users. You can see other mixels by browsing the Popular tab or by following other users, whose mixels will then appear in your customized Updates tab. The My Mixels tab shows all of your in-progress and posted mixels.

Everything Is Available

One of Mixel's most interesting features is the ability to remix other people's work. Once somebody posts a mixel, all of its image components (and personal photos used) become available on the Mixel server for reuse. If you find a mixel you particularly like, you can choose Remix, which will open up a new mixel with all of its images available for you to rearrange and recrop. If you only want to use a certain image from

another person's mixel, you can choose to do that as well.

Visual threads allow users to see who else has remixed a mixel and which mixels use a specific image. Users can also share mixels—their own or another user's—via Facebook, Twitter, Tumblr, and email; you can also open the mixel in Safari or save it to your camera roll. All of these social and collaborative elements make the app a great source for image and art discovery.

As a nonartist, I found Mixel very engaging and even addictive. It creates a playful environment—many of the posted mixels are more humorous than artistic.

For example, there are several that include bearded strawberries, or puppies doing silly things like smoking a pipe in a library. But there are more artistically compelling pieces, too.

You can download Mixel for free from the App Store (macworld.com/7583); it requires an iPad that's running iOS 4.0 or later.

REVIEWS

Hardware, Software, and Accessories
for Your Creative Endeavors

HARDWARE

Apogee Jam ▸

When Apple announced GarageBand for iPad back in March 2011, the company showcased the \$99 Apogee Jam as a way to connect your electric guitar or bass to your iPad or iPhone. Sure, other companies were already making guitar interfaces for iOS devices (like IK Multimedia's AmpliTube iRig), but the Apogee Jam was the first product to support the iPhone 4 and use the dock connector instead of the headphone jack. The dock connector provides a higher-quality connection with less cross talk than the headphone jack. A little bigger than a lighter, the Apogee Jam has a clean and simple design, and a 1/4-inch input on the bottom lets you connect your electric guitar or bass using a standard instrument cable. With its ability to plug into either your iOS device or your Mac, the Apogee Jam is an easy-to-use, high-quality guitar interface. It costs more than available headphone jack adapters, but its clear signal and versatility make it a great little guitar gadget. (Read more about this Eddy Award winner in "The 27th Annual Editors' Choice Awards," page 30.)

★★★★½; \$99; Apogee, www.apogeedigital.com



Canon EOS Rebel T3 ▸

Canon's entry-level EOS Rebel T3 is a step up from Canon's popular XS DSLR, with a 12-megapixel sensor, a DIGIC 4 processor, longer battery life, higher ISO capabilities, improved autofocus and metering systems, and the now-



ubiquitous video capture—a feature missing from the XS. The core functionality is very similar to that of its predecessor, but the updated model is even more user-friendly. The Canon EOS Rebel T3 is a solid, albeit unexciting, entry-level DSLR that is—for the most part—easy to use. Beginning photographers or those who want a little help along the way will appreciate the camera's on-board feature guide; enthusiasts who are comfortable with DSLR features can easily disable the guide if it becomes a nuisance.

★★★★½; \$600; Canon, www.canon.com

Samsung HMX-H304BN ▾

The Samsung HMX-H304BN is an affordable, full-HD camcorder that sports features commonly found on midrange models costing up to several hundred dollars more. Its looks may not turn heads, but it offers very good value. This generally pleasing compact model has a durable feel, is easy to use, and offers a rich set of talents. Let's start with video and still-shot capture, which is among the HMX-H304BN's strengths. Most of the camcorders in its price range offer a 10X to 20X optical zoom. But the HMX-H304BN's optical zoom goes to 30X, and its autofocus adjusts unusually quickly and accurately. When used to film outside at dusk, it handled color strikingly well, even in the low light. The camcorder smoothly rendered the subtle hues of the sky after sunset, showing a smooth gradient from the dark blue high overhead to the pale orange near the horizon. Its battery life was similarly impressive. The HMX-H304BN managed more than three hours of recording time with the supplied 2060mAh lithium ion battery—lengthy enough that most users won't need to swap out batteries



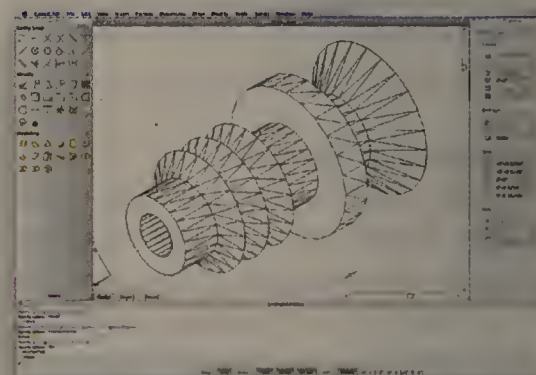
during a typical day of casual shooting.

★★★★; \$500; Samsung, www.samsung.com

Woodees iPic Stylus ▸

Woodees' \$15 iPic Stylus is a quirky guitar-pick-with-rubber-nib hybrid designed to aid users in their quest to become digital music masters. From the waist up, the iPic looks and feels like your average 99-cent pick, though it's perhaps a bit more difficult to bend. Instead of a point for its end, however, the iPic sports a 6mm rubber-nib stylus. The iPic is quite comfortable for the virtual picking of touchscreen instruments. The stylus doesn't get in the way, and the iPic's shape gives the impression that you're playing actual strings rather than awkwardly tapping your way through an app. The stylus is especially useful in apps such as Apple's GarageBand, where you play individual strings and frets. With the iPic, you don't feel like you're tapping on strings; instead, you're strumming and picking them. The iPic strums all the notes it needs to. I can imagine music-makers everywhere picking up one of these for their kits.

★★★★; \$15; Woodees, www.woodees.com



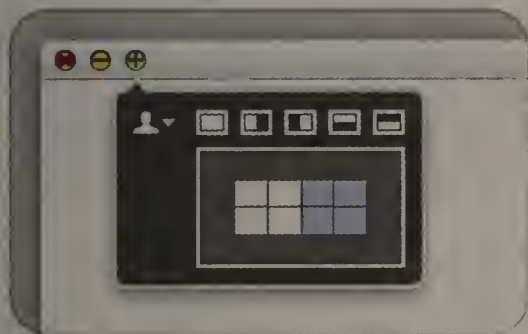
SOFTWARE

CorelCAD 1.0 ▴

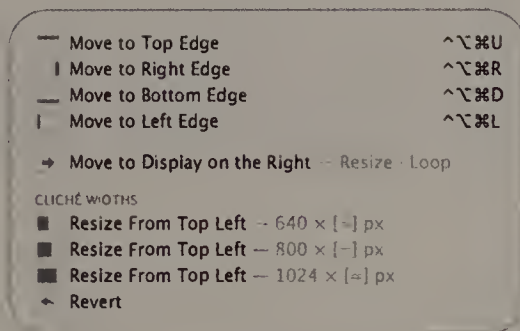
CorelCAD is a new 2D and 3D computer-aided design (CAD) application for Mac and Windows. It is a fairly complete program, with most of the basic 2D features you



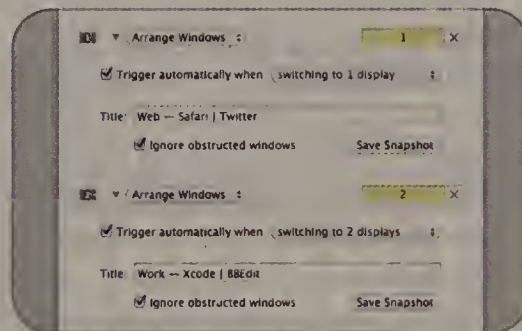
Moom makes it easy to **move, zoom, and arrange windows** using the keyboard, or by hovering your mouse over the green zoom button and choosing an action. But Moom can do much more. Among other things, Moom lets you...



Resize via Grid



Create Custom Actions



Save Window Layouts



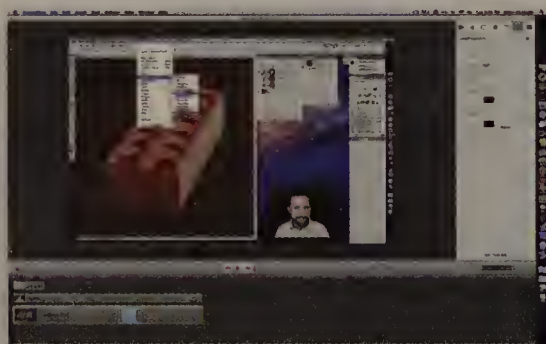
manytricks.com/moom

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would expect, such as lines and shapes, layers, trim, joins, hatches, and more. But the program also features a solid suite of 3D tools, including extrudes, Boolean operations (to add and subtract solids to and from each other), revolves, sweeps, and basic 3D shapes to speed up modeling. CorelCAD supports the industry-standard DWG file format natively. This makes importing and exporting files to and from other CAD applications such as AutoCAD a snap. The 2D and 3D tools and features in CorelCAD are reasonably complete for typical mechanical drafting needs, but there are no specialized tools for architectural drafting, such as walls, roofs, windows, and doors. CorelCAD is, at its core, a general drafting application. The program's native DWG support and the PDF export features will be valuable in a typical collaborative environment involving architectural work, but CorelCAD would benefit from the ability to import PDFs as well. For graphic designers and technical illustrators who might need a tool that is more precise than a typical drawing program, or who need 3D capabilities, CorelCAD should fit the bill.

★★★★☆; \$699; Corel, www.corel.com



ScreenFlow 3.0 ▲

One of the best ways to explain a tricky task to someone is to simply show them how it's done. Telestream's ScreenFlow 3.0.1 can certainly help. This amazing app lets you create computer-based tutorial videos by recording your screen activity (along with narration); you can then share your video online with friends and fans. ScreenFlow opens to a very small preference panel that lets you configure your recording. In addition to screen activity (recorded by default), you can capture audio from any available mic as well as directly from the computer.

Top Products

YOUR GUIDE TO THE BEST HARDWARE WE'VE TESTED

CAMCORDERS

High Definition

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
HD Hero www.gopro.com	★★★★	\$200	sports camcorder	7174
Vixia HF M40 (pictured) www.canon.com	★★★★½	\$344	AVCHD	7477

DIGITAL CAMERAS

Point-and-Shoot

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
Coolpix S9100 (pictured) www.nikon.com	★★★★	\$277	12-megapixel	7300
PowerShot S95 www.canon.com	★★★★	\$298	10-megapixel	6804

DIGITAL CAMERAS

SLR

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
Alpha SLT-A55 www.sonystyle.com	★★★★½	\$585	16.2-megapixel	6780
EOS 60D www.canon.com	★★★★	\$825	18-megapixel	6805
EOS Rebel T3i (pictured) www.canon.com	★★★★½	\$670	18-megapixel	7190

DVD BURNERS

Desktop and Portable

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
d2 DVD±RW w/LightScribe www.lacie.com	★★★★	\$99	desktop	3900
MediaStation 8X External Blu-ray Writer (pictured) www.buffalotech.com	★★★★	\$178	Blu-ray	5344

PRINTERS

Inkjet

PRODUCT	RATING	PRICE ^A	TYPE	FIND CODE ^B
Pixma iP4920 (pictured) www.canon.com	★★★★½	\$80	snapshot, photo	7478
Stylus Photo R2000 www.epson.com	★★★★½	\$500	photo	7584

^A All prices are the best current prices taken from a PriceGrabber survey of retailers at press time. ^B In a browser's address field, typing a find code after macworld.com/ takes you to a product's review or overview.

ScreenFlow also allows you to capture video from your iSight camera while it records screen activity—a clever inclusion that lets you connect visually with your audience rather than exist only as a

disembodied voice. Clicking the Record button starts a 5-second countdown, and then you're on stage for a top-notch video. ★★★★★; \$99; Telestream, www.telestream.net



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iPod

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HELP DESK

Answering Your Questions and Sharing Your Tips about Getting the Most from Your Mac

Mac OS X Hints

The insider tips you won't get from Apple

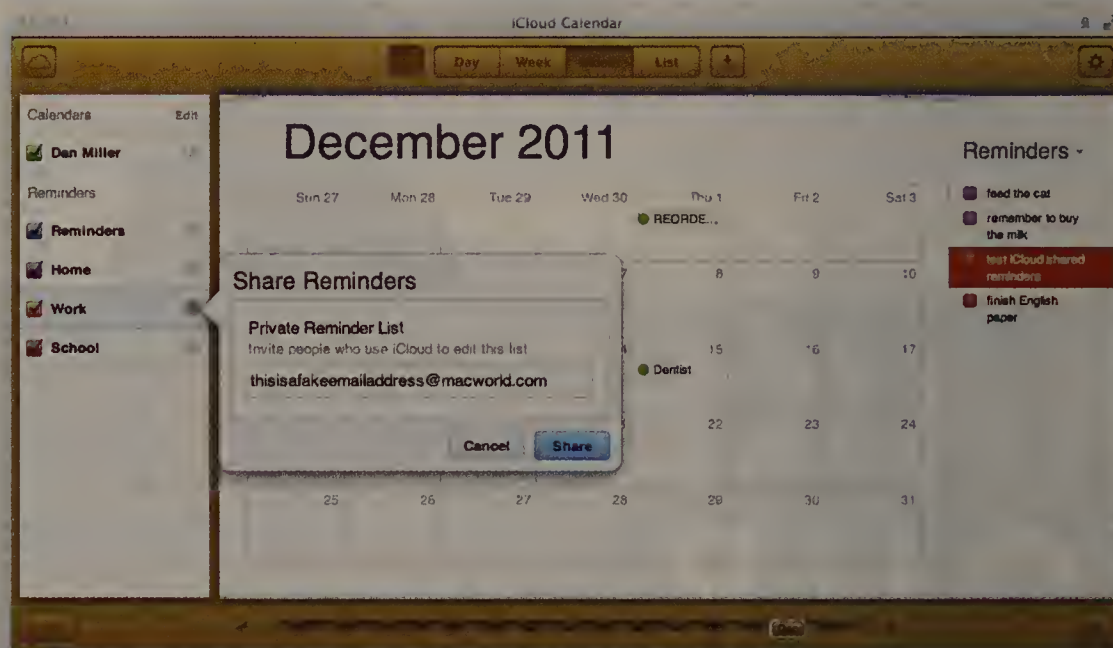
BY LEX FRIEDMAN

Share Reminders in iOS 5

iOS 5's new Reminders app isn't as full featured as some other Mac task managers, but it does offer some clever touches. One of them is the ability to sync to-do lists and share them with other users via iCloud.

You won't find shared to-do lists in the app itself. Instead, you must log in to your iCloud email account. (If you get redirected to the Find My iPhone screen immediately after you log in, press your browser's Back button or click on the cloud icon near the upper left of the Find My iPhone page to get back to the main iCloud menu.) Even on the main menu, there's no Reminders option. Instead, you need to click on the Calendar icon. On the left side of the Calendar view, you'll see a list of your iCloud-synced calendars, followed by any iCloud-synced Reminders lists.

If you don't see any Reminders lists in the left pane, that means you haven't yet created any in the iOS app. To set one up, click on the gear icon at the upper right, choose New Reminder List, and type a name for your new list.



Shared Reminders You can select which Reminders lists you'd like to share by clicking on the Broadcast icon next to each one (the icon that looks like a Wi-Fi symbol).

Once you've decided which list you'd like to share, click on its Broadcast icon (the one that looks like a Wi-Fi signal icon). In the resulting pop-up window, enter the email address of the person (or people) you want to share that list with.

When you add people to a Reminders list, they receive an email. If they click to join the list, that list and its entries will then appear for them, on their iCloud and iCal lists and in the Reminders iOS app.

You can choose whether list subscribers can merely view the list, or view *and* edit it (the default setting).

Customize Lion App Categories

In Lion's Finder, you can group files, folders, and applications in a variety of ways—by name or date last opened, for example; or, in the case of applications only, by application category (View ► Arrange By ► Application Category). Unfortunately, OS X lumps many apps into a catchall category called Other. And

even when it does categorize an app more specifically, you might disagree with its categorization: For example, Amazon classifies the Kindle app as Reference, while you might consider it Entertainment. Fortunately, you can change the category an app is assigned to or even add new categories of your own.

If the app is running, quit it, and then go to /Applications, Control-click (or right-click) on the app in question, and choose Show Package Contents from the contextual menu. Open the Contents folder, look for the info.plist file, and open it in your plain-text editor of choice. (You may be prompted as to whether you really want to unlock the file for editing; assure OS X that you want to do so.)

If your app is already categorized as something besides Other, search for the string **LSApplicationCategoryType**. If you can't find that string, or if it's a previously uncategorized app, you must

Have a Hint to Share?

Navigate to MacOSXHints.com to submit it. This column was based on tips from Mike Sullivan, Sylvian Decaux, Mike Sullivan, and anonymous contributors. Each month, the author of our favorite reader-supplied tip is eligible to receive a *Help Desk* mug.



add a new key. (If you do find the string, skip the next paragraph.)

To add a new key to the info.plist file, skip the first four lines (the last of which should be an XML `<dict>` tag). On the line below it, insert this line (without any spaces): `<key>LSApplicationCategoryType</key>`. Press Return. Now type: `<string>public.app-category.productcategory</string>` (again, without spaces). Then, in that same line, replace `public.app-category.productcategory` with one of the entries from Apple's list of approved product categories (find the list at macworld.com/7558). Copy the category name you want to specify for your app from that list, and then paste it into the info.plist file, making sure you paste it *exactly* as it appears in Apple's list. When you're finished, save your changes and go back to your Applications folder. If it isn't already arranged by Application Category, use Arrange By to make it so.

If your app doesn't immediately appear in the category you specified, you may need to move the app out of the Applications folder momentarily and then return it to the folder to make the Finder notice the change. Moving apps in Lion can be tricky, however. Start by dragging the app to the desktop. If, instead of moving the actual app, OS X creates an alias there, hold down the \mathbb{H} key and drag the app to the desktop again. Once the application has been moved, just move it back into the Applications folder again. It should now appear in the application group you specified.

Turn Off Notifications in iOS 5

In iOS 4, there was a toggle switch that let you turn Notifications off and on (Settings ► Notifications.) But with the overhaul of Notifications in iOS 5, there's no longer an obvious means of quickly disabling all notifications on your iPhone or iPad. So what do you do if you want to be free from notifications once in a while, but you don't want to disable them altogether? The answer depends on your particular situation.

If your goal is a quiet night's sleep while your iPhone charges on your



Mickey on Your Mac In Safari, you can select an element on a webpage and add it to the Dashboard. It will appear just as it does online—which in this case means at a slight angle.

nightstand, the answer is simple:

Airplane Mode (which, of course, offers a quick way to turn off Wi-Fi and 3G). To turn it on, launch Settings and slide the Airplane Mode switch to On.

Airplane Mode will give you some immediate quiet at night, but it will also make it impossible to receive emergency phone calls. Another option, then, is to leave Airplane Mode off and instead disable both Wi-Fi and Cellular Data. Doing so will leave your device unable to connect to the Internet, but still capable of receiving phone calls. For this option, turn off Wi-Fi (Settings ► Wi-Fi) and cellular data (General ► Network ► Cellular Data). That's not as convenient as the Notifications toggle of old, but it gets the job done.

And what if you're sitting down to stream a movie with the Netflix app and don't want iOS 5's less-invasive banner notifications interrupting the film? Turning on Airplane Mode or disabling Wi-Fi and Cellular Data would stop the streaming too, since those options shut off your device's Internet access.

The short answer in that case is: There is no good answer. Your only option in that situation is to disable notifications for each app, one at a time, inside the Notifications settings. That's hardly a solution, particularly if you allow more than just a few apps to notify you.

Put Mickey on Your Dashboard

You can use Dashboard's Web clipping feature to turn almost anything you see on a webpage into a widget. One unexpected benefit of that feature is that you can use it to put a Mickey Mouse clock on your desktop. That's because Mickey is one of several clock faces now offered on the iPod nano, and Apple shows a full working preview of the clock on its website. Here's how to grab that preview and make it appear on your Mac.

First, in Safari go to Apple's iPod nano page (at www.apple.com/ipodnano). Control-click on a white, empty section of the webpage, and choose Open In Dashboard from the contextual menu that appears. Then, click once on the Mickey Mouse clock face, which places it in a white, resizable box. Adjust the box by dragging the handles so that it completely contains the clock. (Depending on the current layout of that page, the Mickey clock may be set at an angle, in which case the box won't fit it squarely.) When you're ready, click on the Add button at the upper right corner of your Safari window.

Once you click on Add, you're switched over to Dashboard immediately, and if all goes well, your Mickey Mouse clock appears there.

Mac 911

Solutions to your most vexing Mac problems

BY CHRISTOPHER BREEN

Convert Webpages to PDFs on iPads

Q I'd like to call up webpages and save them as PDFs on my iPad. Is there a way to do that?

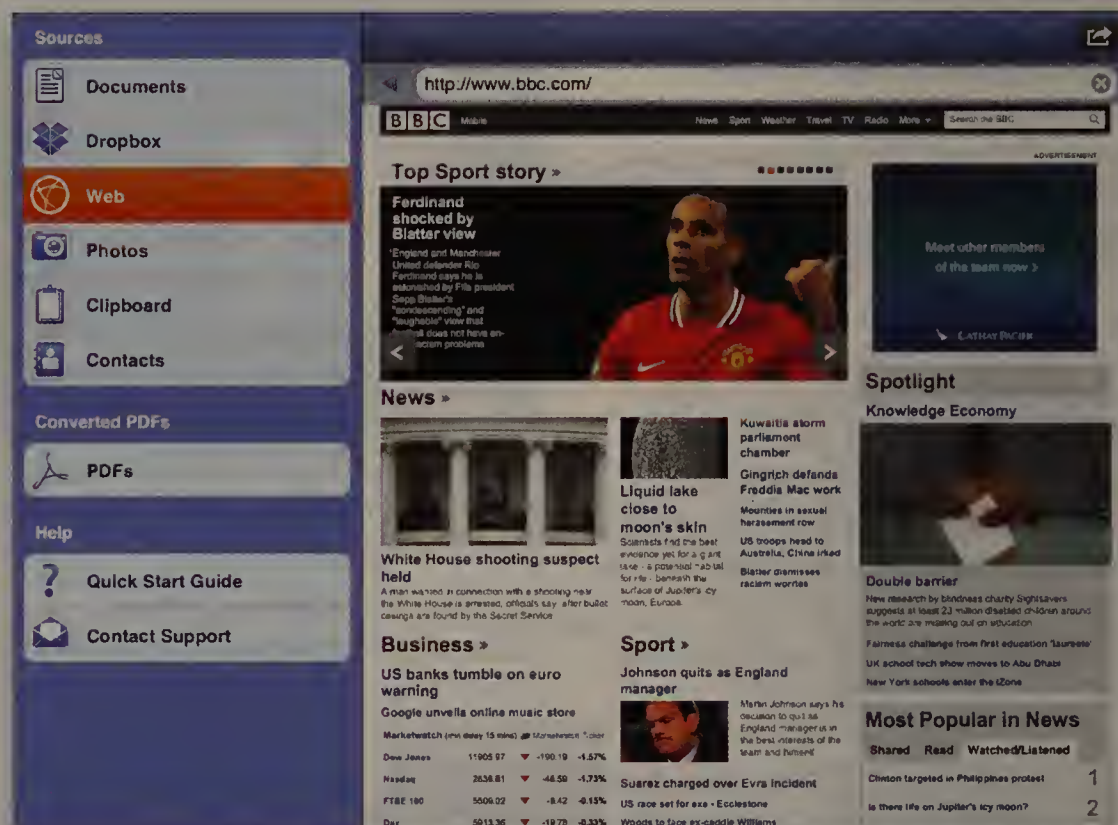
Eric Margerum

A: For \$6, Dar-Soft's PDF Printer for iPad (iPhone and iPod touch version, \$3; dar-soft.com) will take care of it for you. Just launch the app, tap on the Web entry in the Sources column, enter the URL of the webpage you want to visit, tap the Action button at the top right (the one with the right-pointing arrow), and tap Convert To PDF. This converts the page and opens it as a PDF file within the app (see "Convert to PDF").

You can then open the file in another app or send it via email. To open it elsewhere, tap the Action button and then tap the Open In command. You see a list of the installed apps capable of displaying the PDF—iBooks and DocsToGo, for example. To email the file, tap that same Action button and then the Send File command. An email message appears with the PDF attached. Just fill in the To field, add any text you like to the message body, and tap Send to do exactly that.

Note that webpages don't always appear perfectly rendered. You're likely to see a blank page or two, and some of the page's images and links may be rearranged.

PDF Printer can convert more than webpages. You can grab files from your Dropbox account and convert them, and convert files you've added to PDF Printer via another app's Open In command.



Convert to PDF PDF Printer for iPad allows you to easily convert webpages to PDF files, which you can then open in other apps or email.

iOS Printing to an Unsupported Printer

Q Is there a way to print to an AirPort-connected printer from an iPad?

Via the Internet

A: You have a few third-party options, but all of them require that your Mac be running in order to print. The one I use is Ecamm Network's \$20 Printopia 2 (www.ecamm.com), a printing utility that works with all iOS devices. First make sure that your Mac can see the printer on the network. If the printer doesn't appear in the Print & Fax (Snow Leopard) or Print & Scan (Lion) preference pane, click the plus-sign button (+) at the bottom of that preference pane and add it. It should appear as a Bonjour device. Printopia appears as an item within System Preferences. Select it and, in its printer list, enable those printers connected to your Mac—your AirPort-

attached printer should appear in this list. You can now print to it from your iOS device. Printopia also allows you to send and open files directly to your Mac as well as place them in your Dropbox folder.

Other options include Netputing's AirPrint Activator (payment requested; netputing.com). AirPrint Activator requires that you share your printer using OS X's Printer Sharing feature. It supports only printing. There's also Collobos Software's \$10 FingerPrint (www.collobos.com), which offers many of the same features as Printopia and is also available in a version for Windows PCs, though it supports fewer printers.

Filing Flagged Email

Q Is there a way to quickly sort Mail messages that I've applied a colored flag to? For example, I mark messages from family with a blue flag. I'm using Lion on a MacBook Pro.

Via the Internet

Have a Problem?

Go to the Mac 911 forum (macworld.com/2467) to ask about your misbehaving Macs and applications.

A: You can do this with a smart mailbox. Simply choose Mailbox ► New Smart Mailbox and, in the resulting sheet, use the pop-up menu to configure the condition to read Message Has Flag. Then, from the color pop-up menu that appears, choose a color. To ensure that you don't see trashed messages with this color flag, add a condition that reads Message Is Not In Mailbox Trash. Name the smart mailbox and click OK. Now, whenever you flag a message with a particular color, it will appear in the smart mailbox you just created.

Bulk-Delete Email on an iOS Device

Q: Is there a way to delete all the email messages on my iPhone without having to tap Edit, tap each and every message on it, and then delete all those I have selected?

Arnie Goldstein

A: We agree that attempting to delete hundreds of messages using the currently available methods—tapping Edit, tapping the gray circle next to each message, and then either tapping Delete/Archive or swiping across each message and tapping Delete—is the kind of thing that should be reserved for an unpleasant afterlife. So, if Apple won't provide a solution and you're unwilling to risk a repetitive stress injury, where do you turn? To your computer.

Fire up your email client and clean out the messages you don't want. This could be tedious, too—though not as tedious as it would be on your iPhone. If you have an IMAP account such as a Gmail account, you can go to that account via your Web browser and archive any messages in the inbox. If you have a POP account, archive your inbox so that you have a backup of it (to do this in Apple's Mail, Control-click or right-click on a mailbox and choose Export Mailbox). You could then delete all the messages you don't want, but because I'm the careful sort, I'd instead create a new mailbox on your Mac (click the

Bugs & Fixes BY TED LANDAU



AT&T Mystery Data Usage

A friend told me that his iPhone had mysteriously racked up over 200MB of data in just a matter of days and he was being charged at the overage rate. Upon investigation, he found that the heavy data usage appeared to happen mainly at night, at a time when both he and his iPhone were asleep! He eventually switched off the Cellular Data option on his iPhone, and that prevented further excessive usage. (On your phone, go to Settings ► General ► Network, and turn off Cellular Data.)

But I dug deeper and learned this: While AT&T's billing may cite the usage as having occurred in the early morning hours, this is most likely not when it actually happened, as billing may account for data transmitted throughout the day. AT&T claims, "Many smartphones (including iPhones) are 'always on' data devices. They establish a data connection with our network and keep it open even if there is no data being transmitted. If the customer does not end their data session, it is recorded during a nightly feed to the billing system. The data session can contain billing for all the data that was transmitted throughout the day."

Additionally, when your iPhone goes to sleep, its Wi-Fi connection is typically terminated, but the 3G connection remains active. If information is being transmitted over the Internet while the

iPhone is asleep, that data will go over 3G even if you have an active Wi-Fi network that the iPhone would use in its waking state. (My research indicates that this data transmission occurs only if the sleeping iPhone is not plugged into a power source.) This is why you—like my friend—may wish to give your iPhone's Cellular Data switch a flick before retiring to avoid such mysterious bouts of usage.



Retrieving Deleted iWork

Files There is a chance that documents synced via iCloud may get deleted from your iOS devices and iCloud. You can trigger this bug by doing something as innocent as powering down an iOS device and turning it back on. To retrieve your documents, travel to the Library folder in your user folder. Once inside—and assuming you've enabled iCloud for iWork documents—you should see a folder called Mobile Documents. Within this folder are copies of all your iWork documents currently available in iCloud. You may also see a Mobile Documents.delete folder. If so, this is where you'll find the documents that have disappeared.

Senior Contributor **Ted Landau** is the founder of MacFixIt (www.macfixit.com). Share your problems at bugs@macworld.com or on Macworld.com's Mac 911 forum.

plus-sign button [+] in the bottom left corner of the Mail window). Then move the messages you want to keep on your Mac but not your phone to this folder.

If you have an IMAP account, when you next check the inbox for that account, it should be clear of messages. If it isn't, or if you have a POP account where those messages are likely still sitting on your iPhone, launch Settings on the iPhone; tap Mail, Contacts, Calendars; select your email account; scroll to the bottom of the screen; and tap Delete Account. Once that operation

is complete, re-create the account using the usual methods in the Mail, Contacts, Calendars screen. The re-created account should be empty.

Automatically Import Smaller iPhone 4S Movies

Q: I'm enjoying my new iPhone 4S, but I've found that when shooting movies, it captures files at 1080p. Much as I appreciate the high resolution of these movies, their file sizes are pretty big. After downloading them to my Mac, I often want to post or email them, but I

find converting them to a smaller size a bother. Is there an easy way to do so?

Brett Morrison

A: There is. And the avenue to that easier way is Lion's version of Automator. Try this:

Launch Automator. From the sheet that appears, select Image Capture Plugin and then click Choose. Select Movies from the Library pane and drag the Encode Media action into the Workflow area. The Setting pop-up menu gives you a few choices. Choose 720p—which is still technically HD—or 480p if you want a very small movie. Uncheck the Same As Source File option in the action and choose Movies from the Destination pop-up menu (see “Automatic Movie Conversion”). Name and save the workflow (call it ‘Smaller Movies,’ for example).

Now jack your iPhone into your Mac and launch Image Capture. Select the iPhone in the Devices pane and then select the movies on the phone that you want to import. From the Import To pop-up menu at the bottom of the Image Capture window, choose the Smaller Movies workflow that you just created and click the Import button. Two versions of your movies are imported to your Mac. The original full-size versions appear in your Pictures folder, and the smaller, converted versions show up in your Movies folder. At this point all you have to do is locate

MAC 101

Autofocus and iPhone Videos

Q: The autofocus function on my iPhone 4S's camera doesn't refocus as I believe it should when I shoot video.

Paul Boyce

A: What you're seeing is exactly the way the iPhone's camera is supposed to work. When it's shooting still images, the iPhone camera uses autofocus to pinpoint your subject. The iPhone-as-movie-camera doesn't rely on autofocus—if it did, you might see wild shifts of focus as you move the phone around. The intended way to use the video side of the camera's function is to point the phone at your subject, tap on the subject to focus and get the proper light reading, and tap Record. If you happen to move the phone to focus on something else, tap the screen lightly to attain the correct point of focus again.

“But ... but ...” I hear you sputter, “my phone very definitely appears to autofocus before I take my shot.” Yes, it does. Your iPhone's camera is making some effort to figure out where the subject is, but it's really up to you to tap on that subject so the phone knows exactly what to do. While shooting a movie, you may also see some focusing efforts, but they're not really intended to lock in on your new subject. Again, if you want to get the best focus and light performance while moving the camera around in the course of shooting a movie, tap on the screen when the new subject is lined up in the frame.

the file, attach it to an email message, and send it to the people you want to share the movie with.

When Base Stations and iOS Disagree

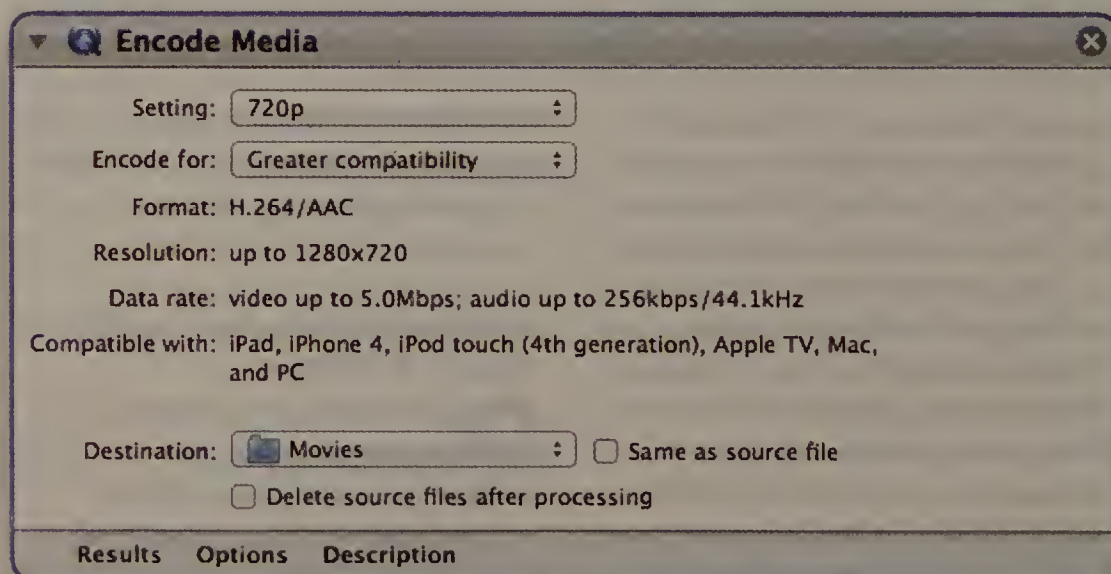
Q: When I try to log in to my home AirPort Extreme base station with the password I've been using for almost a year, my iPhone tells me I've entered the wrong password. Stranger still, my Mac has no problem connecting

to the base station with this password, so the problem seems to be confined to my iPhone. What should I do?

Janet Baylor

A: On the iPhone, open Settings, tap Wi-Fi, locate your AirPort network on the Wi-Fi Networks screen, tap the blue arrow, and, at the top of the screen, tap Forget This Network. Move over to the base station and pull out its power cord. Wait a few seconds, and then shove the power cord back into the base station and wait for it to come back to life.

On your iPhone, return to the Settings screen, tap Wi-Fi, and try to log in to your network. My fervent hope is that your iPhone will now be more than happy to join your network—denying the base station power should have made the iPhone more cooperative. If it isn't, page back to the Settings screen and tap General. Scroll to the bottom of the General screen and tap Reset. Tap Reset Network Settings and wait while your iPhone restarts. Now rejoin your wireless network. It should work perfectly.



Automatic Movie Conversion With this simple Automator Image Capture plug-in, you can convert your iPhone movies as they're imported.

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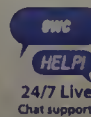


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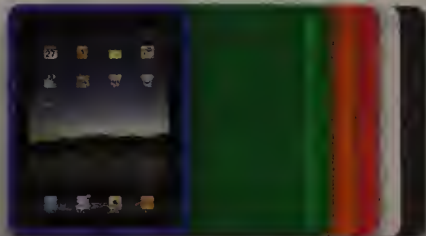
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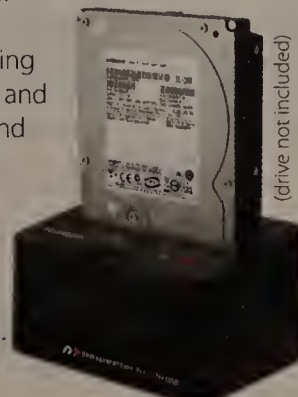
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Figure 6



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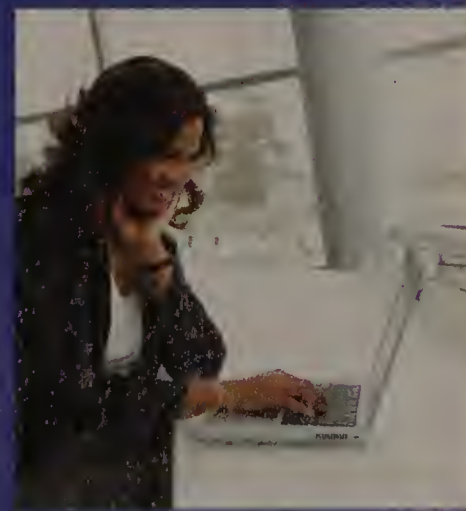
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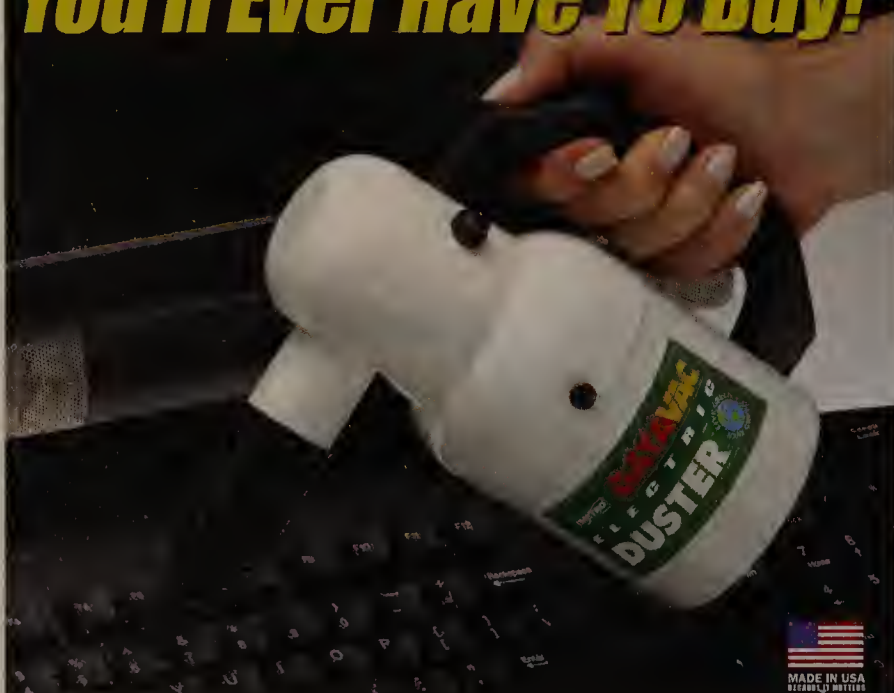
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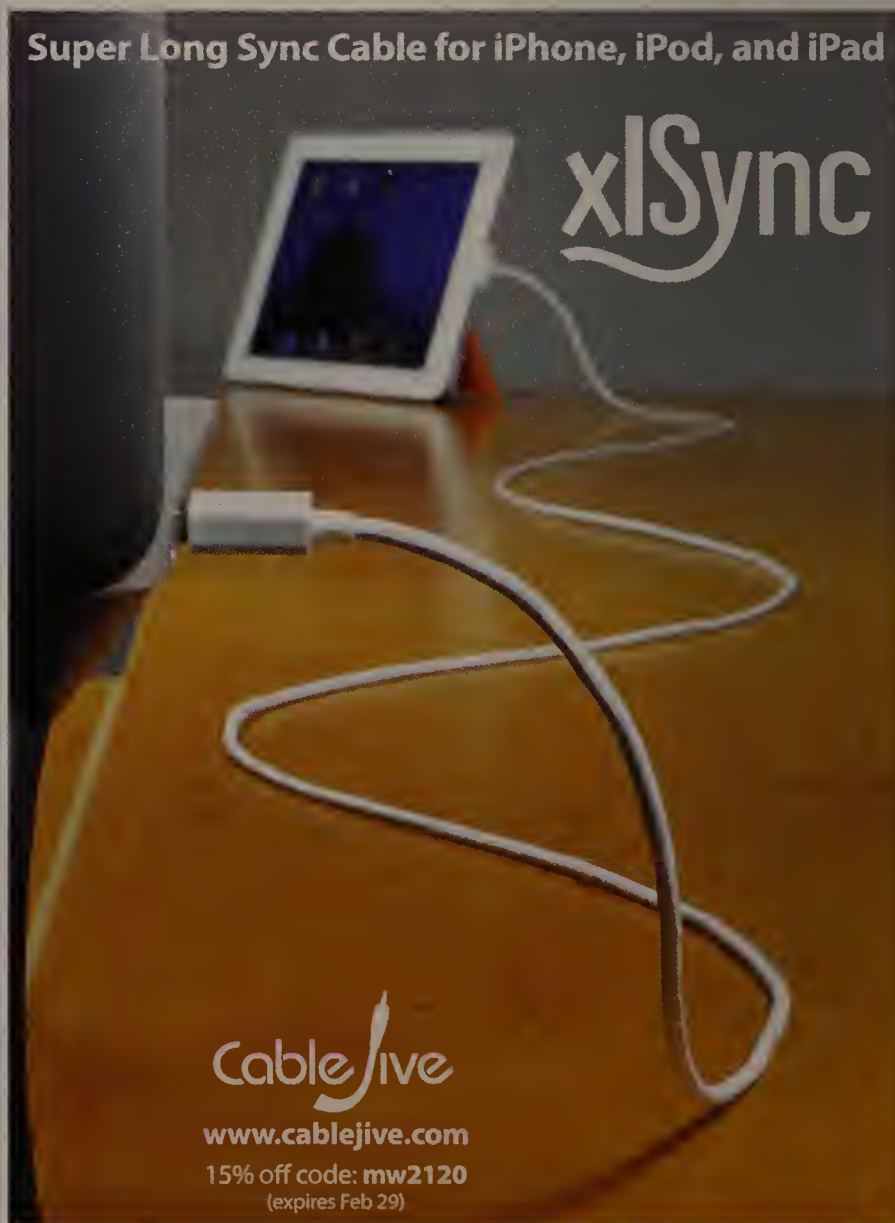


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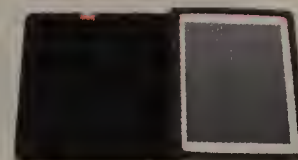
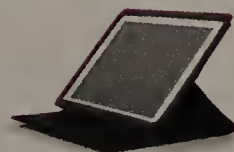
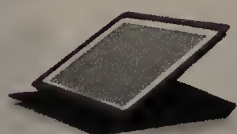


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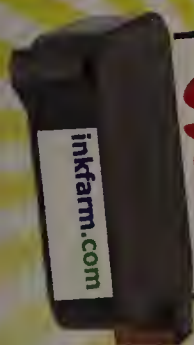


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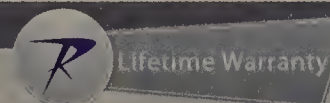
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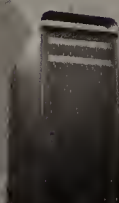
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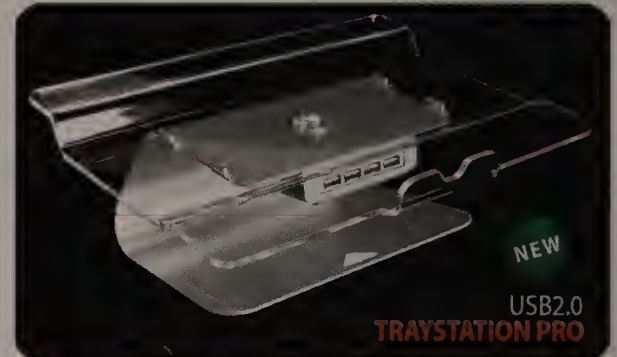


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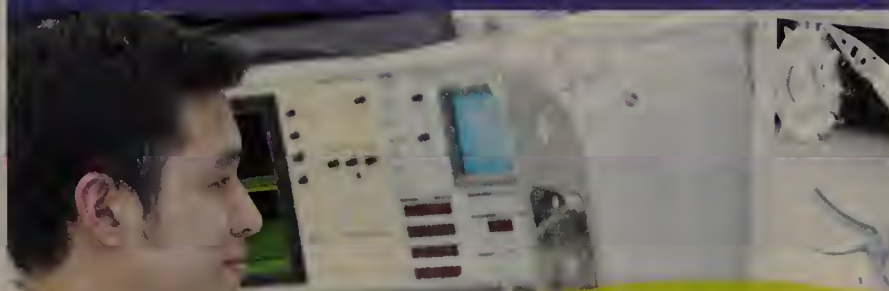


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Apple: TV or Not TV?

Musing on whether it makes sense for Cupertino to build a television set

I'm writing this during the most depressing time of year for any tech pundit: after Apple's autumn iOS event but before the new-product drought breaks in January. Fortunately, we have rumors about an Apple-branded HDTV to mull over.

Those rumors have been floating around for years, but they got kicked into the bigs with the publication of Walter Isaacson's biography of Steve Jobs. The late Apple CEO is quoted therein talking about an integrated television set: "It will have the simplest user interface you could imagine. I finally cracked it." The rest of Isaacson's book makes it pretty clear that when Steve said he had come up with an idea, it usually meant, "Lots of engineers have been working on lots of ideas, but I identified this one as Important to Apple and then waved my fairy wand of Immaculate Resources and Mandate over the project."

What Apple Could Offer

It'd be wonderful if Apple brought some innovation to television simply in the form of licensing. I have 400 cable channels available to me right now, but I only care about 12 of them. If Apple figured out how to license those channels independently and allowed me to subscribe to them à la carte via channel-specific iOS apps, that'd be a huge win.

Siri search would be incredible on a TV. "Play last night's episode of the Craig Ferguson show," I would say into my audio-enabled remote. And given that the HDTV is the biggest, baddest (in the goodest sense of that word) screen in the house, it's a focal point for family activity and, so, a natural hub for iCloud.

That said, the existing Apple TV set-top box could handle all of those things and more. So what would an integrated TV add? Yes, a fully integrated design is more elegant. But, honestly,

you plug an Apple TV into an HDMI port and then you never ever have to deal with it as a separate entity again.

Streaming is also problematic because although you can cut the cable company out of the loop for subscription programming, it's still going to provide the data pipeline for all of your content. The cable company will raise some valid objections ("Tens of millions of people streaming HDTV puts a hellacious load on our network") and some petulant ones ("Fine, now we'll cap your monthly bandwidth and make sure any dough that we lose through loss of your TV subscription, we make up in overage fees"). It'll likely be a wash for the user.

Then there's the problem of carrying enough screen sizes and enough price points to keep the marketplace happy. Can an Apple HDTV, available in only one or two sizes, be successful? Even if it can, how will Apple convince people to ditch a perfectly functional flat screen that's probably only a few years into its ten-year life cycle?

\$99 Apple TV + \$\$ HDTV of the user's choice > \$\$\$\$ Apple HDTV.



Do the Math

I keep coming back to simple math: \$99 Apple TV + \$\$ HDTV of the user's choice > \$\$\$\$ Apple HDTV.

I try to think of opportunities that an HDTV would deliver to Apple—and to users—that a future Apple TV box couldn't. An integrated FaceTime camera, sure. And that's a lot of square footage Apple's hanging on the wall. What sort of AirPort antenna could Apple engineers design if they didn't have to pack it inside a hotplate-size base station?

How about a touchscreen? Naw. Apple's already said that it doesn't think touchscreens work on big displays (though the company has thrown up smoke screens before, about other concepts). Plus, I'm sure it wouldn't want a beautiful glass screen to be covered in fingerprints.

So I don't think an Apple HDTV will really be about the hardware. It'll be about the software and the content—the keys to any Apple product. Siri, iCloud, and deals to license content in a way that doesn't make you feel like you have to feed coins into the side of the screen any time you want to catch a sitcom—these will define any Apple HDTV.

That last one might be the single toughest problem to solve. Talking to network executives isn't like talking to Siri. Siri is designed for rational, productive conversation in plain, comprehensible language. Meanwhile, I'm sure that someone at NBC is still insisting to some creator's agent that *Seinfeld* still hasn't made back its production costs and that there are no profits to share.

Senior Contributor **Andy Ihnatko** is a tech columnist for the *Chicago Sun-Times*, a regular on *MacBreak Weekly* (twit.tv/mbw), the host of *The Ihnatko Almanac* (5by5.tv/ia), and so much more (ihnatkco.com).

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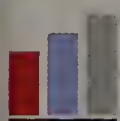
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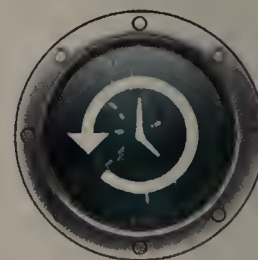
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